

1.1 **Pollution Control Agency**1.2 **Proposed Permanent Rules Relating to Sewage Treatment Systems**1.3 **7080.1100 DEFINITIONS.**1.4 [For text of subps 1 to 10, see M.R.]1.5 Subp. 11. **Building.** "Building" means any ~~structure used or intended for supporting~~
1.6 ~~or sheltering any use or occupancy~~ lot improvement with a foundation.1.7 [For text of subps 12 to 18, see M.R.]1.8 Subp. 18a. **Contour loading rate.** "Contour loading rate" means the amount of
1.9 effluent loaded to the soil per the length of the dispersal unit or units along the single
1.10 hillslope along the contour. The contour loading rate is determined on the relationship
1.11 between the vertical and horizontal water movement in the soil and is based on the
1.12 permeability difference between the absorption area and any deeper horizons, the depth
1.13 between the absorption area and the change in permeability, and the land slope.1.14 [For text of subps 19 to 40, see M.R.]1.15 Subp. 41. **Individual subsurface sewage treatment system or ISTS.** "Individual
1.16 subsurface sewage treatment system" or "ISTS" means ~~an individual~~ a subsurface sewage
1.17 treatment system or part thereof, as set forth in Minnesota Statutes, sections 115.03 and
1.18 115.55, that employs sewage tanks or other treatment devices with final discharge into the
1.19 soil below the natural soil elevation or elevated final grade that are designed to receive a
1.20 sewage design flow of 5,000 gallons per day or less.1.21 ISTS also includes the holding tanks and privies that serve these same facilities
1.22 are designed to receive a sewage design flow of 5,000 gallons per day or less; sewage
1.23 collection systems that discharge into ISTS treatment and dispersal components; and
1.24 privies. ISTS does not include building sewers or other components regulated those
1.25 components defined as plumbing under chapter 4715 or collection systems.

2.1 [For text of subps 42 to 47, see M.R.]

2.2 Subp. 48. [See repealer.]

2.3 [For text of subps 49 to 63, see M.R.]

2.4 Subp. 64. **Pump tank.** "Pump tank" means a sewage tank or separate compartment
2.5 following the within a sewage tank, which receives sewage tank effluent, that serves as a
2.6 reservoir for a pump. A separate tank used as a pump tank is considered a septic system
2.7 tank under Minnesota Statutes, section 115.55, subdivision 1, paragraph ~~(o)~~ (p).

2.8 [For text of subps 65 and 66, see M.R.]

2.9 Subp. 66a. **Rock fragments.** "Rock fragments" means pieces of rock two
2.10 millimeters in diameter or larger that are strongly cemented and resistant to rupture. Rock
2.11 fragments are commonly known as gravel, stones, cobbles, and boulders.

2.12 Subp. 66b. **Sand.** "Sand" means a sand soil texture, as described in the Field Book
2.13 for Describing and Sampling Soils, which is incorporated by reference in subpart 36.

2.14 [For text of subps 67 to 73, see M.R.]

2.15 Subp. 74. **Sewage tank.** "Sewage tank" means a receptacle used in the containment
2.16 or treatment of sewage and includes, but is not limited to, septic tanks, aerobic tanks,
2.17 pump tanks, and holding tanks. Requirements for sewage tanks are described in parts
2.18 7080.1900 to 7080.2030. Sewage tanks are considered a septic system tank in Minnesota
2.19 Statutes, section 115.55, subdivision 1, paragraph ~~(o)~~ (p).

2.20 [For text of subps 75 to 80, see M.R.]

2.21 Subp. 80a. **Structure.** "Structure" means a lot improvement that does not have a
2.22 foundation but the location of which will interfere with the dispersal, treatment, operation,
2.23 or maintenance of an SSTS. Structure includes, but is not limited to, animal shelters,
2.24 decks, paved areas, and sheds.

3.1 [For text of subps 81 to 89, see M.R.]

3.2 Subp. 89a. **Uniform distribution.** "Uniform distribution" means a method that, upon
3.3 activation of the SSTS, reliably distributes effluent evenly over the entire absorption area.

3.4 [For text of subps 90 to 93, see M.R.]

3.5 **7080.1500 COMPLIANCE CRITERIA.**

3.6 Subpart 1. **Treatment required.** Sewage discharged from a dwelling, group
3.7 of dwellings, or other establishment that is not served by a system issued a permit
3.8 containing by the agency that contains effluent and discharge limits or specific monitoring
3.9 requirements ~~by the agency~~ must be treated according to applicable requirements.

3.10 Subp. 2. ~~Primitive structures~~ **Hand-carried graywater.** Graywater ~~from structures~~
3.11 ~~without plumbing~~ that originated from hand-carried water must not be discharged directly
3.12 to surface waters, drainageways, or poorly drained soils; in a manner or volume harmful
3.13 to the environment or public health; or in a manner that creates a public health nuisance as
3.14 determined by the local unit of government.

3.15 [For text of subp 3, see M.R.]

3.16 Subp. 4. **Compliance criteria for existing systems.** To be in compliance, an
3.17 existing ISTS must meet the provisions of this subpart.

3.18 [For text of items A to C, see M.R.]

3.19 D. ISTS built after March 31, 1996, or in an SWF area as defined under part
3.20 7080.1100, subpart 84, ~~shall~~ must have at least a three-foot vertical separation or a vertical
3.21 separation ~~based on applicable requirements~~ in compliance with part 7080.2350, subpart
3.22 2, Table XI. The local ordinance ~~must not~~ is allowed to provide for a reduced vertical
3.23 separation in the following cases:

3.24 (1) Types I, II, and III systems; and

4.1 (2) Types IV and V systems that are designed with at least a three-foot
4.2 separation distance.

4.3 The local ordinance must not allow more than a 15 percent reduction in the vertical
4.4 separation distance. A 15 percent reduction is only allowed to account for settling of
4.5 sand or soil, normal variation of measurements, and interpretations of the limiting layer
4.6 conditions.

4.7 [For text of item E, see M.R.]

4.8 F. The vertical separation measurement for items D and E ~~shall~~ must be
4.9 measured outside the area of system influence in an area of similar soil.

4.10 Subp. 5. **Compliance criteria for systems with a flow of greater than 2,500**
4.11 **gallons per day.** In addition to the requirements under subpart 4, systems designed under
4.12 part 7080.2150, subpart 4, ~~item A or B,~~ must demonstrate that the additional nutrient
4.13 reduction component required under those items is in place and functioning.

4.14 [For text of subp 6, see M.R.]

4.15 **7080.1550 ACCEPTABLE AND PROHIBITED DISCHARGES.**

4.16 [For text of subp 1, see M.R.]

4.17 Subp. 2. **System influent.**

4.18 A. Footing or roof drainage and chemically treated hot tub and pool water must
4.19 not be discharged into any part of a system. Products containing hazardous chemicals and
4.20 hazardous waste must not be discharged to a system other than in normal amounts of
4.21 household products and cleaners designed for household use. Substances not intended for
4.22 use in household cleaning, including but not limited to solvents, pesticides, flammables,
4.23 photo finishing chemicals, paint, and dry-cleaning chemicals must not be discharged
4.24 to the system. Other unused products or substances, or unused medicines, must not be

5.1 discharged to the system solely as a method of disposal. Floor drains from garages serving
5.2 dwellings must not be connected to the system.

5.3 B. An ISTS must be designed to provide additional treatment if:

5.4 (1) raw sewage exceeds 300 mg/l BOD, 200 mg/l TSS, or 50 mg/l oil
5.5 and grease; or

5.6 (2) sewage tank effluent applied to the soil from the sewage tank or other
5.7 secondary treatment device is greater than the concentrations in part 7080.2150, subpart
5.8 3, item K.

5.9 Additional treatment must be designed by a Minnesota licensed professional engineer
5.10 or according to the recommendations in the Prescriptive Designs and Design Guidance
5.11 for Advanced Designers, which is incorporated by reference in item C, or must use a
5.12 product registered under chapter 7083.

5.13 C. Prescriptive Designs and Design Guidance for Advanced Designers,
5.14 Minnesota Pollution Control Agency (September 2009 and as subsequently amended),
5.15 is incorporated by reference, is subject to frequent change, and is available at
5.16 www.pca.state.mn.us/programs/ists/technical.html.

5.17 **7080.1710 PRELIMINARY EVALUATION.**

5.18 A preliminary evaluation ~~shall consist of a proposed site for an ISTS consists of the~~
5.19 ~~determination, location, or existence of~~ determining the following items:

5.20 A. design flow for, anticipated effluent concentrations of biochemical
5.21 oxygen demand, total suspended solids, and oil and grease, and anticipated presence of
5.22 nondomestic waste from the dwelling, dwellings, or other establishments;

5.23 [For text of items B to K, see M.R.]

5.24 **7080.1720 FIELD EVALUATION.**

5.25 [For text of subps 1 to 3, see M.R.]

6.1 Subp. 4. **Soil observations.** A minimum of three soil observations are required for
6.2 the initial and replacement soil treatment area and at least one soil observation must be
6.3 performed in the portion of the soil treatment area anticipated to have the most limiting
6.4 conditions. The total number of soil observations required is based on the judgment of
6.5 the certified individual or the local unit of government. Soil observations must comply
6.6 with the following requirements:

6.7 [For text of items A and B, see M.R.]

6.8 C. the soil observation method must allow observation of the different soil
6.9 horizons that constitute the soil profile and, if determining the loading rate by part
6.10 7080.2150, subpart 3, item E, Table IX, an undisturbed sample must be observed by
6.11 ~~a soil pit~~;

6.12 [For text of items D to G, see M.R.]

6.13 Subp. 5. **Soil descriptions for determination of limiting layer.** Each soil profile
6.14 observed at the proposed soil treatment area must be evaluated under adequate light
6.15 conditions with the soil in a moist unfrozen state for the characteristics in items A to H:

6.16 [For text of items A to D, see M.R.]

6.17 E. depth to the periodically saturated soil for new construction or replacement
6.18 as determined by redoximorphic features and other indicators, as determined in subitems
6.19 (1) to (3):

6.20 [For text of subitems (1) and (2), see M.R.]

6.21 (3) in the upper 12 inches of the topsoil layer, if it is immediately followed
6.22 by a periodically saturated horizon, the depth of seasonal saturation is determined by one
6.23 or more of the indicators in units (a) to ~~(e)~~ (f):

6.24 [For text of units (a) to (c), see M.R.]

7.1 (d) the soil treatment area at or near the elevation of the ordinary high
7.2 water level of a surface water or in a concave hill slope position; or

7.3 (e) redoximorphic accumulation or depletions; or

7.4 (f) the soil expressing indicators of seasonal saturation as determined
7.5 in Field Indicators of Hydric Soils in the United States: A Guide for Identifying and
7.6 Delineating Hydric Soils, USDA Natural Resource Conservation Service (2006). The field
7.7 indicators are incorporated by reference, are available through the Minitex interlibrary
7.8 loan system, and are subject to frequent change;

7.9 [For text of items F to H, see M.R.]

7.10 Subp. 6. **Determination of loading rate and absorption area size.** The effluent
7.11 loading and absorption area size must be determined by ~~either~~ item A or B, or both, as
7.12 required by the local unit of government:

7.13 A. the loading rate based on an examination of soil texture, undisturbed soil
7.14 structure, and soil consistence in soil pits at the most limiting layer, within 12 inches below
7.15 the proposed absorption area using the United States Department of Agriculture (USDA)
7.16 soil classification system as specified in the Field Book for Describing and Sampling Soils,
7.17 which is incorporated by reference under part 7080.1100, subpart 36; or

7.18 B. the loading rate based on the percolation procedure described in subitems (1)
7.19 to (8) or other equivalent procedure as approved by the local unit of government:

7.20 (1) each test hole must be six to eight inches in diameter, have vertical
7.21 sides, and be located ~~in the~~ at the depth of the proposed soil absorption area. For mounds
7.22 and at-grade systems, the bottom of each test hole must be in the upper 12 inches of the
7.23 original soil. For trenches and seepage beds, the bottom of each test hole ~~shall~~ must be at
7.24 the depth of the absorption area;

7.25 [For text of subitems (2) to (8), see M.R.]

8.1 [For text of subp 7, see M.R.]

8.2 **7080.1850 SEWAGE FLOW DETERMINATION FOR DWELLINGS.**

8.3 [For text of subp 1, see M.R.]

8.4 Subp. 2. **Design flow.** The estimated design flow for any dwelling must provide for
8.5 at least two bedrooms. For multiple or multifamily dwellings, the design flow ~~consists~~
8.6 ~~of the sum of the design flows for each individual unit~~ must be calculated according to
8.7 part 7081.0120, subpart 1.

8.8 **7080.1920 SEPTIC TANK DESIGN.**

8.9 Septic tanks must:

8.10 A. have a liquid depth of at least 30 inches. Any liquid depth that is greater than
8.11 84 inches must not be used when calculating the septic tank liquid capacity;

8.12 B. have a minimum of six feet between the inlet and outlet of the tank, rather
8.13 than between compartments, or have a minimum of six feet from the inlet of the first
8.14 tank to the outlet of the last tank in series;

8.15 C. if site conditions warrant, the inlet and outlet are allowed to be located on
8.16 walls that are not opposite each other along the axis of maximum dimension; however,
8.17 the requirements of item B must be met;

8.18 D. have an inlet invert at least two inches above the outlet invert; and

8.19 E. have a ~~reserve or storage~~ space between the liquid surface and the top of
8.20 the inlet and outlet baffles of not less than ~~eight~~ six inches or 100 gallons, whichever is
8.21 greater, for all liquid depths with an effluent screen and alarm or for liquid depths of less
8.22 than 39 inches without an effluent screen and alarm. The space between the liquid surface
8.23 and the top of the inlet and outlet baffles must not be less than eight inches for liquid
8.24 depths of 39 inches or more without an effluent screen and alarm.

9.1 In addition, there must be at least one inch between the underside of the top of the
9.2 tank and the highest point of the inlet and outlet baffles.

9.3 **7080.1930 SEPTIC TANK CAPACITY.**

9.4 [For text of subp 1, see M.R.]

9.5 Subp. 2. **Garbage disposals.** If a garbage disposal unit ~~or other appliance with~~
9.6 ~~garbage grinding capability~~ is anticipated or installed in a dwelling, the septic tank
9.7 capacity must be at least 50 percent greater than that required in subpart 1 and must
9.8 include either multiple compartments or multiple tanks. In addition, either an effluent
9.9 screen with an alarm or a pressure filter must be employed.

9.10 Subp. 3. **Sewage pumping.** If sewage is pumped from a sewage ejector or grinder
9.11 pump from a dwelling to a septic tank, the septic tank capacity must be at least 50 percent
9.12 greater than that required in subpart 1 and must include either multiple compartments or
9.13 multiple tanks. In addition, either an effluent screen with an alarm or a pressure filter
9.14 must be employed.

9.15 [For text of subp 4, see M.R.]

9.16 Subp. 5. **Systems serving Septic tank capacity for multiple dwellings.**

9.17 A. For systems serving multiple ten or fewer dwellings with a common septic
9.18 tank, the liquid capacity must be determined by adding the capacities for each dwelling as
9.19 determined in this part or according to subpart 6.

9.20 B. For systems serving more than ten dwellings with a common septic tank, the
9.21 requirements of subitem (1) or (2) apply:

9.22 (1) total septic tank liquid capacity for common tanks serving multiple
9.23 dwellings under gravity flow to common tanks is determined by multiplying the design
9.24 flow by 3.0 or according to subpart 6; or

10.1 (2) total septic tank liquid capacity for common tanks serving multiple
10.2 dwelling under pressure flow to common tanks is determined by multiplying the design
10.3 flow by 4.0 or according to subpart 6.

10.4 C. Total septic tank liquid capacity for systems employing individual tanks at
10.5 each dwelling discharging into a collection system must be determined:

10.6 (1) by a Minnesota licensed professional engineer; or

10.7 (2) according to the Prescriptive Designs and Design Guidance for
10.8 Advanced Designers, incorporated by reference under part 7080.1550, subpart 2.

10.9 [For text of subp 6, see M.R.]

10.10 Subp. 7. **Septic tank capacity for other establishments.** ~~Septic tank liquid capacity~~
10.11 ~~for other establishments shall be determined by part 7081.0240, subpart 2.~~ Total septic
10.12 tank liquid capacity for other establishments with domestic strength waste as described in
10.13 part 7080.1550, subpart 2, item B, subitem (1), is determined by multiplying the design
10.14 flow by 3.0 if receiving sewage under gravity flow, by multiplying the design flow by 4.0
10.15 if receiving sewage under pressure flow, or according to subpart 6. Additional design
10.16 considerations, such as equalization tanks, additional capacity, or secondary treatment, are
10.17 required for influent concentrations that exceed the levels identified in part 7080.1550,
10.18 subpart 2, item B, subitem (1).

10.19 Subp. 8. **Oil and grease interceptor.** An exterior oil and grease interceptor must
10.20 be employed if oil and grease exceed the amount identified in part 7080.1550, subpart 2,
10.21 item B, subitem (1).

10.22 **7080.1940 MULTIPLE SEPTIC TANKS.**

10.23 [For text of item A, see M.R.]

11.1 B. ~~If~~ When tanks are connected in series, each tank or compartment must
 11.2 contain at least 25 percent of the required total liquid capacity. ~~For new construction, the~~
 11.3 ~~first tank must be equal to or larger than any subsequent tank in the series.~~

11.4 **7080.1960 SEPTIC TANK BAFFLES.**

11.5 All septic tanks must be baffled according to items A to G. Effluent screens are
 11.6 allowed to be substituted for outlet baffles.

11.7 [For text of items A to C, see M.R.]

11.8 D. The inlet baffle must extend at least six inches, but not more than 20 percent
 11.9 of the total liquid depth, below the liquid surface and at least ~~six inches above the liquid~~
 11.10 ~~surface~~ one inch above the crown of the inlet sewer.

11.11 E. The outlet baffle and any baffles between compartments must extend below
 11.12 the liquid surface a distance equal to 40 percent of the liquid depth, except that the
 11.13 penetration of the indicated baffles or sanitary tees for horizontal cylindrical tanks must be
 11.14 35 percent of the total liquid depth. They must also extend above the liquid surface as
 11.15 ~~required in item D. These baffles must extend at least six inches above the liquid surface~~
 11.16 determined in part 7080.1920, item E.

11.17 [For text of items F and G, see M.R.]

11.18 **7080.1970 SEPTIC TANK ACCESS.**

11.19 A. Septic tanks ~~shall~~ must have a minimum of two maintenance holes with a
 11.20 minimum diameter of 20 inches (least dimension). ~~One Maintenance hole~~ holes must be
 11.21 placed over the inlet baffle and the outlet device (baffle or screen). ~~Another maintenance~~
 11.22 ~~hole must be near the center of the tank, to facilitate pumping without interference. For a~~
 11.23 ~~compartmented tank, this hole must be centered over the first compartment. The tank must~~
 11.24 ~~also have an inspection pipe with a minimum diameter of six inches over the inlet baffle.~~
 11.25 The maintenance holes must be large enough to allow pumping without interference.

12.1 Enough maintenance holes must be provided so access can be gained within six feet of
12.2 all walls for solids removal of each compartment. Inspection pipes of no less than six
12.3 inches must be provided over any baffles that are not otherwise accessible through a
12.4 maintenance hole.

12.5 [For text of items B and C, see M.R.]

12.6 **7080.2050 DISTRIBUTION OF EFFLUENT.**

12.7 [For text of subps 1 to 3, see M.R.]

12.8 Subp. 4. **Pressure distribution.**

12.9 A. ~~Pressure distribution must pressurize the entire distribution system and~~
12.10 ~~must be used for:~~

12.11 (1) ~~mound systems;~~

12.12 (2) ~~at-grade systems;~~

12.13 (3) ~~all seepage beds placed in soils with a texture group of 1 through 5 in~~
12.14 ~~Table IX in part 7080.2150, subpart 3, item E;~~

12.15 (4) ~~all seepage beds with a width greater than 12 feet;~~

12.16 (5) ~~all trench systems if the trenches are at the same elevation and placed in~~
12.17 ~~soils with a texture group of 1 through 5 in Table IX in part 7080.2150, subpart 3, item E;~~

12.18 (6) ~~systems receiving treatment level A or B effluent, as determined in part~~
12.19 ~~7083.4030, Table III; and~~

12.20 (7) ~~all systems where the distribution network is installed above the~~
12.21 ~~original grade.~~

12.22 All systems must be pressurized as required in parts 7080.2200 to 7080.2400.

12.23 [For text of items B to J, see M.R.]

13.1 **7080.2100 DOSING OF EFFLUENT.**13.2 [For text of subps 1 to 3, see M.R.]13.3 Subp. 4. **Pumps for pressure distribution.** Pumps for pressure distribution must
13.4 meet the requirements in items A to D.13.5 [For text of item A, see M.R.]13.6 B. The pump discharge capacity must be based on the perforation discharges
13.7 for a minimum average head of 1.0 foot for 1/4-inch and 3/16-inch perforations and 2.0
13.8 feet for 1/8-inch perforations for dwellings. The minimum average head must be 2.0 feet
13.9 for all other establishments with 3/16- to 1/4-inch perforations and 5.0 feet of head for
13.10 1/8-inch perforations. Perforation discharge is determined by the following formula:

13.11
$$Q = 19.65 cd^2h^{1/2}$$

13.12 where: Q = discharge in gallons per minute

13.13 c = 0.60 = coefficient of discharge

13.14 d = perforation diameter in inches

13.15 h = head in feet.

13.16 [For text of item C, see M.R.]13.17 D. The quantity of effluent delivered for each pump cycle must be no greater
13.18 than 25 percent of the design flow and at least ~~five~~ four times the volume of the ~~supply~~
13.19 ~~and~~ distribution pipes plus the volume of the supply pipe.13.20 **7080.2150 FINAL TREATMENT AND DISPERSAL.**13.21 [For text of subps 1 and 2, see M.R.]13.22 Subp. 3. **Other technical requirements for systems.** Items A to ~~J~~ M are required
13.23 for specific designs as determined in parts 7080.2200 to 7080.2400.13.24 [For text of items A and B, see M.R.]

14.1 C. For acceptable treatment of septic tank effluent by soil, the soil treatment and
14.2 dispersal systems must meet the requirements of subitems (1) and (2).

14.3 (1) A minimum three-foot vertical soil treatment and dispersal zone shall
14.4 must be designed below the distribution media that meets the criteria in units (a) to (c):

14.5 [For text of unit (a), see M.R.]

14.6 (b) any soil layers ~~with a texture group of 1 or 4 in Table IX in item~~
14.7 E that are sand or loamy sand texture with 35 to 50 percent rock fragments must not be
14.8 credited at only one-half their thickness as part of the necessary three-foot treatment zone.
14.9 Soil layers, regardless of soil texture, with greater than 50 percent rock fragments must not
14.10 be credited as part of the necessary treatment zone; and

14.11 [For text of unit (c), see M.R.]

14.12 [For text of subitem (2), see M.R.]

14.13 [For text of item D, see M.R.]

14.14 E. The system's absorption area and mound absorption ratio must be sized
14.15 according to Table IX or IXa.

14.16 TABLE IX

14.17 ~~LOADING RATES FOR DETERMINING BOTTOM ABSORPTION AREA FOR~~
14.18 ~~TRENCHES AND SEEPAGE BEDS FOR EFFLUENT TREATMENT LEVEL C AND~~
14.19 ~~ABSORPTION RATIOS FOR DETERMINING MOUND ABSORPTION AREAS~~
14.20 ~~USING DETAILED SOIL DESCRIPTIONS~~

14.21 Texture	14.22 Texture	14.23 Structure	14.24 Grade	14.25 Consistence	14.26 Soil loading	14.27 Mound
	group				rate	absorp-
					(gpd/ft ²)	tion
						ratio
14.25 Course sand*	1	single grain		loose	0.00	1
14.26		single grain		weakly	0.00	2
14.27				cemented-		
14.28				friable		

15.1			single-grain		cemented-	0.00	0
15.2					firm		
15.3	Medium	2	single-grain		loose	1.20	1
15.4	sand*						
15.5			single-grain		weakly	0.60	2
15.6					cemented-		
15.7					friable		
15.8			single-grain		cemented-	0.00	0
15.9					firm		
15.10	Fine sand	3	single-grain		loose	0.60	2
15.11			single-grain		weakly	0.24	5
15.12					cemented-		
15.13					friable		
15.14			single-grain		cemented-	0.00	0
15.15					firm		
15.16	Coarse and	4	single-grain		loose	1.20	1
15.17	medium						
15.18	loamy sand*						
15.19			single-grain		weakly	0.60	2
15.20					cemented-		
15.21					friable		
15.22			single-grain		cemented-	0.00	0
15.23					firm		
15.24	Fine and very	5	single-grain		loose	0.60	2
15.25	fine loamy						
15.26	sand						
15.27			single-grain		weakly	0.24	5.0
15.28					cemented-		
15.29					friable		
15.30			single-grain		cemented-	0.00	0
15.31					firm		
15.32	Coarse and	6	pris, blk, gr	weak	v. friable,	0.45	2.6
15.33	medium				friable		
15.34	sandy loam						
15.35			pris, blk, gr	weak	firm	0.24	5.0

16.1			pris, blk, gr	mod or	v. friable,	0.78	1.3
16.2				strong	friable		
16.3			pris, blk, gr	mod or	firm	0.45	2.6
16.4				strong			
16.5			platy	weak	v. friable,	0.45	2.6
16.6					friable		
16.7			platy	weak	firm	0.24	5.0
16.8			platy	mod or	v. friable,	0.45	2.6
16.9				strong	friable		
16.10			platy	mod or	firm	0.00	0.0
16.11				strong			
16.12			massive		v. friable,	0.24	5.0
16.13					friable		
16.14			massive		firm	0.00	0.0
16.15	Fine and v.	7	pris, blk, gr	weak	v. friable,	0.24	5.0
16.16	fine sandy				friable		
16.17	loam						
16.18			pris, blk, gr	weak	firm	0.24	5.0
16.19			pris, blk, gr	mod or	v. friable,	0.60	2.0
16.20				strong	friable		
16.21			pris, blk, gr	mod or	firm	0.24	5.0
16.22				strong			
16.23			platy	weak	v. friable,	0.24	5.0
16.24					friable		
16.25			platy	weak	firm	0.00	0.0
16.26			platy	mod or	v. friable,	0.00	0.0
16.27				strong	friable		
16.28			platy	mod or	firm	0.00	0.0
16.29				strong			
16.30			massive		v. friable,	0.24	5.0
16.31					friable		
16.32			massive		firm	0.00	0.0
16.33	Loam	8	pris, blk, gr	weak	v. friable,	0.45	2.6
16.34					friable		

17.1		pris, blk, gr	weak	firm	0.24	5.0	
17.2		pris, blk, gr	mod or	v. friable,	0.60	2.0	
17.3			strong	friable			
17.4		pris, blk, gr	mod or	firm	0.24	5.0	
17.5			strong				
17.6		platy	weak	v. friable,	0.24	5.0	
17.7				friable			
17.8		platy	weak	firm	0.00	0.0	
17.9		platy	mod or	v. friable,	0.00	0.0	
17.10			strong	friable			
17.11		platy	mod or	firm	0.00	0.0	
17.12			strong				
17.13		massive		v. friable,	0.24	5.0	
17.14				friable			
17.15		massive		firm	0.00	0.0	
17.16	Silt loam	9	pris, blk, gr	weak	v. friable,	0.45	2.6
17.17				friable			
17.18		pris, blk, gr	weak	firm	0.24	5.0	
17.19		pris, blk, gr	mod or	v. friable,			
17.20			strong	friable	0.50	2.4	
17.21			mod or				
17.22		pris, blk, gr	strong	firm	0.24	5.0	
17.23				v. friable,	0.24	5.0	
17.24		platy	weak	friable			
17.25		platy	weak	firm	0.00	0.0	
17.26		platy	mod or	v. friable,	0.00	0.0	
17.27			strong	friable			
17.28		platy	mod or	firm	0.00	0.0	
17.29			strong				
17.30		massive		v. friable,	0.24	5.0	
17.31				friable			
17.32		massive		firm	0.00	0.0	

18.1	Clay loam,	10	pris, blk, gr	weak	v. friable or	0.24	5.0
18.2	silty clay				friable		
18.3	loam, sandy						
18.4	clay loam						
18.5			pris, blk, gr	weak	firm	0.00	0.00
18.6			pris, blk, gr	mod or	v. friable or	0.45	2.6
18.7				strong	friable		
18.8			pris, blk, gr	mod or	firm	0.24	5.0
18.9				strong			
18.10			platy	weak	v. friable or	0.00	0.00
18.11					friable		
18.12			platy	weak	firm	0.00	0.00
18.13			platy	mod or	v. friable or	0.00	0.00
18.14				strong	friable		
18.15			platy	mod or	firm	0.00	0.00
18.16				strong			
18.17			massive		v. friable or	0.00	0.00
18.18					friable		
18.19			massive		firm	0.00	0.00
18.20	Clay, silty	11	pris, blk, gr	weak	v. friable,	0.00	0.00
18.21	clay, sandy				friable		
18.22	clay						
18.23			pris, blk, gr	weak	firm	0.00	0.00
18.24			pris, blk, gr	mod or	v. friable, or	0.24	5.0
18.25				strong	friable		
18.26			pris, blk, gr	mod or	firm	0.00	0.00
18.27				strong			
18.28			platy	weak	v. friable,	0.00	0.00
18.29					friable		
18.30			platy	weak	firm	0.00	0.00
18.31			platy	mod or	v. friable,	0.00	0.00
18.32				strong	friable		
18.33			platy	mod or	firm	0.00	0.00
18.34				strong			

19.1		massive		v. friable,	0.00	0.00
19.2				friable		
19.3		massive		firm	0.00	0.00

19.4 ~~All very firm consistence has a loading rate of 0.0.~~

19.5	<u>Major soil</u>	<u>Structure</u>	<u>Structure</u>	<u>Moist</u>	<u>Treatment</u>	<u>Treatment</u>	<u>Treatment</u>	<u>Treatment</u>
19.6	<u>texture</u>	<u>shape</u>	<u>grade</u>	<u>consist-</u>	<u>level C</u>	<u>level C</u>	<u>levels A,</u>	<u>levels A,</u>
19.7	<u>grouping</u>			<u>ence</u>	<u>absorp-</u>	<u>mound</u>	<u>A-2, B,</u>	<u>A-2, B,</u>
19.8	<u>(with</u>				<u>tion area</u>	<u>absorp-</u>	<u>and B-2</u>	<u>and B-2</u>
19.9	<u>less than</u>				<u>loading</u>	<u>tion ratio</u>	<u>absorp-</u>	<u>mound</u>
19.10	<u>50% rock</u>				<u>rate</u>		<u>tion area</u>	<u>absorp-</u>
19.11	<u>fragments</u>				<u>(gpd/ft²)</u>		<u>loading</u>	<u>tion</u>
19.12	<u>or as</u>						<u>rate</u>	<u>ratio**</u>
19.13	<u>otherwise</u>						<u>(gpd/ft²)</u>	
19.14	<u>noted)</u>							
19.15	<u>All sands</u>	<u>Single</u>	<u>N/A</u>	<u>Loose</u>	<u>-</u>	<u>1.0</u>	<u>-</u>	<u>1.0</u>
19.16	<u>with</u>	<u>grain</u>						
19.17	<u>35% to</u>							
19.18	<u>50% rock</u>							
19.19	<u>fragments</u>							
19.20	<u>Coarse</u>	<u>Single</u>	<u>N/A</u>	<u>Loose</u>	<u>1.2</u>	<u>1.0</u>	<u>1.6</u>	<u>1.0</u>
19.21	<u>sand or</u>	<u>grain</u>						
19.22	<u>sand with</u>							
19.23	<u>less than</u>							
19.24	<u>35% rock</u>							
19.25	<u>fragments</u>							
19.26	<u>Fine sand</u>	<u>All,</u>	<u>N/A</u>	<u>Loose,</u>	<u>0.6</u>	<u>2.0</u>	<u>1.0</u>	<u>1.6</u>
19.27	<u>and loamy</u>	<u>except</u>		<u>very</u>				
19.28	<u>fine sand</u>	<u>massive</u>		<u>friable, or</u>				
19.29	<u>with</u>			<u>friable</u>				
19.30	<u>less than</u>							
19.31	<u>35% rock</u>							
19.32	<u>fragments</u>							
19.33	<u>Sandy</u>	<u>All and</u>	<u>Weak to</u>	<u>Very</u>	<u>0.78</u>	<u>1.5</u>	<u>1.0</u>	<u>1.6</u>
19.34	<u>loam</u>	<u>massive</u>	<u>strong*</u>	<u>friable or</u>				
19.35				<u>friable</u>				

20.1	<u>Loam</u>	<u>All and</u>	<u>Weak to</u>	<u>Very</u>	<u>0.6</u>	<u>2.0</u>	<u>0.78</u>	<u>2.0</u>
20.2		<u>massive</u>	<u>strong*</u>	<u>friable or</u>				
20.3				<u>friable</u>				
20.4	<u>Silt loam</u>	<u>All,</u>	<u>Weak to</u>	<u>Very</u>	<u>0.5</u>	<u>2.4</u>	<u>0.78</u>	<u>2.0</u>
20.5		<u>except</u>	<u>strong</u>	<u>friable or</u>				
20.6		<u>platy and</u>		<u>friable</u>				
20.7		<u>massive</u>						
20.8	<u>Clay loam</u>	<u>All,</u>	<u>Mod to</u>	<u>Very</u>	<u>0.45</u>	<u>2.6</u>	<u>0.6</u>	<u>2.6</u>
20.9		<u>except</u>	<u>strong</u>	<u>friable or</u>				
20.10		<u>platy and</u>		<u>friable</u>				
20.11		<u>massive</u>						
20.12	<u>Clay</u>	<u>All,</u>	<u>Strong</u>	<u>Very</u>	<u>-</u>	<u>5.0</u>	<u>0.3</u>	<u>5.3</u>
20.13		<u>except</u>		<u>friable or</u>				
20.14		<u>platy and</u>		<u>friable</u>				
20.15		<u>massive</u>						
20.16	<u>Other</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
20.17	<u>clays</u>							

20.18 * Excludes moderate and strong platy structure.

20.19 ** Mound media bed absorption area loading rate of 1.6 gpd/ft².

20.20 TABLE IXa
 20.21 LOADING RATES FOR DETERMINING BOTTOM ABSORPTION AREA
 20.22 FOR TRENCHES AND SEEPAGE BEDS FOR EFFLUENT TREATMENT
 20.23 LEVEL C AND ABSORPTION RATIOS FOR DETERMINING MOUND
 20.24 ABSORPTION AREAS USING PERCOLATION TESTS

20.25	Percolation rate (minutes per	Gallons per day per square	Mound absorption ratio
20.26	inch)	foot of trench bottom	
20.27	Faster than 0.1*	0.0	1
20.28	0.1 to 5*	1.20	1
20.29	0.1 to 5 (soil texture groups	0.6	2
20.30	3 & 5)		
20.31	6 to 15	0.78	1.3
20.32	16 to 30	0.6	2
20.33	31 to 45	0.5	2.4

21.1	46 to 60	0.45	2.6
21.2	61 to 120	0.24	5.0
21.3	Slower than 120	0.0	-

21.4 ~~*See part 7080.2260 for requirements for these soils.~~

21.5	<u>Percolation rate</u>	<u>Treatment level</u>	<u>Treatment</u>	<u>Treatment levels</u>	<u>Treatment levels</u>
21.6	<u>(MPI)</u>	<u>C absorption</u>	<u>level C mound</u>	<u>A, A-2, B, and</u>	<u>A, A-2, B, and</u>
21.7		<u>area loading rate</u>	<u>absorption ratio</u>	<u>B-2 absorption</u>	<u>B-2 mound</u>
21.8		<u>(gpd/ft²)</u>		<u>area loading rate</u>	<u>absorption ratio</u>
21.9				<u>(gpd/ft²)</u>	
21.10	<u><0.1</u>	<u>-</u>	<u>1.0</u>	<u>-</u>	<u>1.0</u>
21.11	<u>0.1 to 5</u>	<u>1.2</u>	<u>1.0</u>	<u>1.6</u>	<u>1.0</u>
21.12	<u>0.1 to 5 (fine sand</u>	<u>0.6</u>	<u>2.0</u>	<u>1.0</u>	<u>1.6</u>
21.13	<u>and loamy fine</u>				
21.14	<u>sand)</u>				
21.15	<u>6 to 15</u>	<u>0.78</u>	<u>1.5</u>	<u>1.0</u>	<u>1.6</u>
21.16	<u>16 to 30</u>	<u>0.6</u>	<u>2.0</u>	<u>0.78</u>	<u>2.0</u>
21.17	<u>31 to 45</u>	<u>0.5</u>	<u>2.4</u>	<u>0.78</u>	<u>2.0</u>
21.18	<u>46 to 60</u>	<u>0.45</u>	<u>2.6</u>	<u>0.6</u>	<u>2.6</u>
21.19	<u>61 to 120</u>	<u>-</u>	<u>5.0</u>	<u>0.3</u>	<u>5.3</u>
21.20	<u>>120</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

21.21 [For text of items F to H, see M.R.]

21.22 I. A minimum of six inches of topsoil borrow ~~shall~~ must be placed over the
21.23 system.

21.24 J. A close-growing, vigorous vegetative cover must be established over the soil
21.25 treatment and dispersal system and other vegetatively disturbed areas. The sodding,
21.26 seeding, or other vegetation establishment ~~shall~~ must begin immediately after the
21.27 placement of the topsoil borrow. The soil treatment and dispersal system must be protected
21.28 from erosion and excessive frost until a vegetative cover is established. The vegetative
21.29 cover established must not interfere with the hydraulic performance of the system and

22.1 ~~shall~~ must provide adequate frost and erosion protection. Trees, shrubs, deep-rooted
22.2 plants, or hydrophytic plants must not be planted on the system.

22.3 K. Sewage tank effluent concentrations to the soil dispersal system must not
22.4 exceed a BOD concentration of 170 mg/l, a CBOD₅ concentration of 125 mg/l, a TSS
22.5 concentration of 60 mg/l, or an oil and grease concentration of 25 mg/l.

22.6 L. The distribution media must not be in contact with soils with any sand soil
22.7 texture with 35 percent or more rock fragments or any soils that have a percolation rate
22.8 of less than 0.1 minute per inch.

22.9 M. The contour loading rate for soil dispersal systems must be between 1 and
22.10 12 gallons per lineal foot per day.

22.11 [For text of subp 4, see M.R.]

22.12 **7080.2210 TRENCHES AND SEEPAGE BEDS.**

22.13 Subpart 1. **Characteristics.** To qualify as a trench or seepage bed system, the system
22.14 must meet ~~or exceed~~ the requirements of items A to E:

22.15 [For text of item A, see M.R.]

22.16 B. ~~meet or exceed~~ applicable technical requirements of parts 7080.1900 to
22.17 7080.2030, 7080.2050, and 7080.2100;

22.18 [For text of item C, see M.R.]

22.19 D. ~~meet or exceed~~ the requirements of part 7080.2150, subparts 2 and 3, except
22.20 subpart 3, item M; and

22.21 E. meet the requirements of subparts 2 to 4.

22.22 Subp. 2. ~~Seepage beds~~ **General.** Seepage bed placement must be limited to areas
22.23 having natural slopes of less than six percent. Absorption areas for seepage beds and
22.24 trenches must not be placed in soils with a texture group of 10 and 11 on loading rate of

23.1 less than 0.45 gallons per day per square foot or as shown in Table IX or IXa in part
23.2 7080.2150, subpart 3, item E. Seepage beds must not be located in floodplains.

23.3 **Subp. 3. Sizing of trenches and seepage beds.**

23.4 [For text of item A, see M.R.]

23.5 B. The minimum sidewall absorption is six inches. The bottom absorption area
23.6 is allowed to be reduced, for trenches only, by the following:

23.7	Sidewall absorption - inches	Bottom area reduction
23.8	12 to 17	20%
23.9	18 to 23	34%
23.10	24	40%

23.11 A 40 percent reduction is not allowed with a loading rate of 1.2 gallons per day per square
23.12 foot.

23.13 **Subp. 4. Design and construction of trenches and seepage beds.**

23.14 A. Trenches must be no more than 36 inches wide. Any excavation wider than
23.15 36 inches ~~shall be considered~~ is a seepage bed. A seepage bed must not be wider than
23.16 12 feet if gravity distribution is used and 25 feet if pressure distribution is used. Natural,
23.17 undisturbed soil must exist between multiple trenches and seepage beds. Multiple seepage
23.18 beds must be spaced at one-half the bed width. ~~Multiple units must be designed based on~~
23.19 ~~contour loading rates as described in part 7080.2220, subpart 3, item B.~~

23.20 [For text of items B to E, see M.R.]

23.21 F. Trenches and seepage beds in which the distribution media is in contact with
23.22 soils that are sand, loamy sand, fine sand, or loamy fine sand or soils with a percolation
23.23 rate of 0.1 to 5 minutes per inch must employ one or more of the following measures:

23.24 (1) employ pressure distribution according to part 7080.2050, subpart 4;

24.1 (2) divide the total dispersal area into multiple units that employ serial
 24.2 distribution, with each dispersal unit having no greater than 15 percent of the required
 24.3 bottom absorption area; or

24.4 (3) have a vertical separation distance of at least five feet.

24.5 **7080.2220 MOUNDS.**

24.6 [For text of subp 1, see M.R.]

24.7 Subp. 2. **Location of mounds.**

24.8 [For text of items A and B, see M.R.]

24.9 C. On slopes of one percent or greater and where the original soil mound
 24.10 absorption ratio is 5.0 or greater in Table IX or IXa in part 7080.2150, subpart 3, item E,
 24.11 mounds must not be located where the ground surface contour lines that lie directly below
 24.12 the long axis of the distribution media bed represent a swale or draw, unless the contour
 24.13 lines have a radius of curvature greater than 100 feet. Mounds must never be located in
 24.14 swales or draws where the radius of curvature of the contour lines is less than 50 feet.

24.15 Subp. 3. **Mound design and construction.**

24.16 A. The mound distribution media bed area consists of bottom area only and
 24.17 must be calculated by dividing the design flow by 1.2 gallons per square foot per day.

24.18 B. ~~The mound distribution media bed area must be as long and narrow~~
 24.19 ~~as practical.~~ Mound distribution media beds must be determined according to part
 24.20 7080.2150, subpart 3, item M, and must be no wider than ten feet. ~~Mound distribution bed~~
 24.21 ~~widths must be determined by the contour loading rate, which is the relationship between~~
 24.22 ~~the vertical and horizontal water movement based on the following soil conditions:~~

24.23 ~~(1) the permeability difference between the original soil mound absorption~~
 24.24 ~~area and slower permeability horizons below the original soil mound absorption area;~~

25.1 (2) ~~the depth between the original soil mound absorption area and the~~
 25.2 ~~change in permeability described in subitem (1); and~~

25.3 (3) ~~the land slope.~~

25.4 [For text of items C to U, see M.R.]

25.5 **7080.2230 AT-GRADE SYSTEMS.**

25.6 [For text of subps 1 and 2, see M.R.]

25.7 Subp. 3. **Design and construction of at-grade systems.**

25.8 A. The at-grade bed absorption width must be determined according to part
 25.9 ~~7080.2220, subpart 3, item B,~~ 7080.2150, subpart 3, item M, and must not exceed a width
 25.10 of 15 feet. The at-grade bed absorption width for slopes of one percent or greater does not
 25.11 include any width of the media necessary to support the upslope side of the pipe.

25.12 [For text of items B to E, see M.R.]

25.13 F. Six inches of loamy or sandy cover material must be installed over the
 25.14 distribution media. Cover must extend at least five feet from the ends of the ~~rock~~ media
 25.15 bed and be sloped to divert surface water. Side slopes must not be steeper than four
 25.16 horizontal units to one vertical unit. Six inches of topsoil borrow must be placed on
 25.17 the cover material.

25.18 [For text of item G, see M.R.]

25.19 **7080.2250 TYPE II SYSTEMS.**

25.20 Systems designed according to parts ~~7080.2260~~ 7080.2270 to 7080.2290 are
 25.21 considered Type II systems.

25.22 **7080.2300 TYPE III SYSTEMS.**

25.23 A system ~~designed according to this part is considered~~ that deviates from the
 25.24 requirements in parts 7080.2210 to 7080.2240 is a Type III system. The Deviations from

26.1 the standards in parts 7080.2210 to 7080.2240 must be submitted to the local unit of
 26.2 government for approval or denial. However, no deviation is allowed from the following
 26.3 standards and at a minimum a Type III system must:

26.4 A. employ design flow values in parts 7080.1850 to 7080.1885;

26.5 B. ~~meet or exceed applicable~~ technical requirements of part 7080.2050, ~~subpart~~
 26.6 ~~4, item A;~~

26.7 C. meet the requirements of parts 7080.1900 to 7080.2030;

26.8 D. meet the requirements of part 7080.2100 with mound and at-grade systems
 26.9 required to have pressure distribution;

26.10 ~~E~~ E. provide flow measurement;

26.11 ~~D~~ F. ~~meet or exceed~~ the requirements of part 7080.2150, ~~subpart~~ subparts 2,
 26.12 and 4; and

26.13 E G. ~~meet or exceed~~ the requirements of part 7080.2150, subpart 3, items A,
 26.14 B, C, ~~G~~, F, I, and J; and L; and

26.15 H. follow the absorption area loading rates in part 7080.2150, subpart 3, item
 26.16 E, Tables IX and IXa. If the site cannot accommodate a soil treatment and dispersal
 26.17 system sized in accordance with Table IX or IXa in part 7080.2150, subpart 3, item E, a
 26.18 smaller soil treatment and dispersal system is allowed to be constructed if it employs flow
 26.19 restriction devices that do not allow loadings in excess of those in Table IX or IXa of part
 26.20 7080.2150, subpart 3, item E. In those cases where a loading rate or mound absorption
 26.21 ratio is not listed in Tables IX and IXa in part 7080.2150, subpart 3, item E, an alternative
 26.22 loading rate or absorption ratio must be proposed.

26.23 **7080.2350 TYPE IV SYSTEMS.**

26.24 Subpart 1. **General.** A system designed according to this part is considered a Type
 26.25 IV system. The system must:

27.1 [For text of items A to C, see M.R.]

27.2 D. ~~meet or exceed~~ the requirements of part 7080.2150, subpart 3, items A
27.3 and B; ~~and~~

27.4 E. ~~meet or exceed~~ the requirements of Table XI in subpart 2 ~~and Table XH~~
27.5 ~~or XHa in subpart 3;~~ and

27.6 F. meet soil dispersal requirements of parts 7080.2210, 7080.2220, and
27.7 7080.2230, except that the reductions in part 7080.2210, subpart 3, item B, are not
27.8 applicable.

27.9 Subp. 2. **Table XI.**

27.10 ~~TABLE XI~~
27.11 ~~TREATMENT COMPONENT PERFORMANCE LEVELS AND METHOD~~
27.12 ~~OF DISTRIBUTION BY TEXTURE GROUP¹~~

27.13 Vertical separation 27.14 (inches)	27.13 Soil group found in Table XII		
	27.15 1-5	27.15 6-9	27.15 10-11
27.17 12 to 17	27.17 Treatment Level A	27.17 Treatment Level A	27.17 Treatment Level A
27.18	27.18 Pressure Distribution	27.18 Pressure Distribution	27.18 Pressure Distribution
27.19	27.19 Timed Dosing	27.19 Timed Dosing	27.19 Timed Dosing
27.20 18 to 23	27.20 Treatment Level B	27.20 Treatment Level B	27.20 Treatment Level B
27.21	27.21 Pressure Distribution	27.21 Pressure Distribution	27.21 Pressure Distribution
27.22	27.22 Timed Dosing	27.22 Timed Dosing	
27.23 24 to 36	27.23 Treatment Level B	27.23 Treatment Level B	27.23 Treatment Level B
27.24	27.24 Pressure Distribution	27.24 Pressure Distribution	27.24 Pressure Distribution
27.25	27.25 Timed Dosing		

27.26 TABLE XI
27.27 TREATMENT COMPONENT PERFORMANCE LEVELS AND METHOD OF
27.28 DISTRIBUTION BY TEXTURE GROUP¹

28.1 28.2	<u>Vertical separation</u> <u>(inches)</u>	<u>Texture group</u> ²		
28.3 28.4	<u>All sands and loamy</u> <u>sands</u>	<u>Sandy loam, loam,</u> <u>silt loam</u>	<u>Clay, clay loams</u>	
28.6	<u>12 to 17</u> ³	<u>Treatment level A</u> <u>Uniform distribution</u> <u>Timed dosing</u>	<u>Treatment level A</u> <u>Uniform distribution</u> <u>Timed dosing</u>	<u>Treatment level A</u> <u>Uniform distribution</u> <u>Timed dosing</u>
28.8	<u>18 to 35</u> ³	<u>Treatment level B</u> <u>Uniform distribution</u> <u>Timed dosing</u>	<u>Treatment level B</u> <u>Uniform distribution</u> <u>Timed dosing</u>	<u>Treatment level B</u> <u>Uniform distribution</u> <u>Timed dosing</u>
28.12	<u>36+</u> ³	<u>Treatment level A-2 or</u> <u>B-2</u> <u>Uniform distribution</u> <u>Treatment level C</u>	<u>Treatment level A-2 or</u> <u>B-2</u> <u>Uniform distribution</u> <u>Treatment level C</u>	<u>Treatment level A-2 or</u> <u>B-2</u> <u>Uniform distribution</u> <u>Treatment level C</u>

28.16 ¹The treatment component performance levels correspond with those established
 28.17 for treatment components under the product testing requirements in Table III in part
 28.18 7083.4030.

28.19 ² With less than 50 percent rock fragments.

28.20 ³ Additional vertical separation distance is required as determined in part 7080.2150,
 28.21 subpart 3, item C.

28.22 Subp. 3. ~~Tables XII and XIIa~~ Soil loading rates. The system's absorption area and
 28.23 mound absorption ratio must be sized according to Table ~~XII or Table XIIa~~ IX or IXa.

28.24 **TABLE XII**
 28.25 ~~LOADING RATES FOR DETERMINING BOTTOM ABSORPTION AREA FOR~~
 28.26 ~~TRENCHES AND SEEPAGE BEDS FOR EFFLUENT MEETING TREATMENT~~
 28.27 ~~LEVELS A AND B AND ABSORPTION RATIOS FOR DETERMINING MOUND~~
 28.28 ~~ABSORPTION AREAS USING DETAILED SOIL DESCRIPTIONS~~

	Texture	Texture group	Structure	Grade	Consistence	Soil loading rate (gpd/ft²)	Mound absorption ratio
29.1							
29.2							
29.3							
29.4							
29.5	Coarse sand*	1	single grain		loose	0.00	1
29.6			single grain		weakly	0.00	2
29.7					cemented-		
29.8					friable		
29.9			single grain		cemented-firm	0.00	0
29.10	Medium sand*	2	single grain		loose	1.6	1
29.11							
29.12			single grain		weakly	0.78	2
29.13					cemented-		
29.14					friable		
29.15			single grain		cemented-firm	0.00	0
29.16	Fine sand	3	single grain		loose	1.0	2
29.17			single grain		weakly	0.45	2
29.18					cemented-		
29.19					friable		
29.20			single grain		cemented-firm	0.00	0
29.21	Coarse and medium loamy sand*	4	single grain		loose	1.6	1
29.22							
29.23							
29.24			single grain		weakly	0.78	2
29.25					cemented-		
29.26					friable		
29.27			single grain		cemented-firm	0.00	0
29.28	Fine and very fine loamy sand	5	single grain		loose	1.0	2
29.29							
29.30							
29.31			single grain		weakly	0.45	5.0
29.32					cemented-		
29.33					friable		
29.34			single grain		cemented-firm	0.00	0

30.1	Coarse and medium sandy loam	6	pris, blk, gr	weak	v. friable, friable	0.6	2.6		
30.2									
30.3									
30.4					pris, blk, gr	weak	firm	0.45	5.0
30.5					pris, blk, gr	mod or strong	v. friable, friable	1.0	1.3
30.6									
30.7					pris, blk, gr	mod or strong	firm	0.6	2.6
30.8									
30.9					platy	weak	v. friable, friable	0.6	2.6
30.10									
30.11					platy	weak	firm	0.45	5.0
30.12					platy	mod or strong	v. friable, friable	0.6	2.6
30.13									
30.14					platy	mod or strong	firm	0.00	0.0
30.15									
30.16					massive		v. friable, friable	0.45	5.0
30.17									
30.18					massive		firm	0.00	0.0
30.19	Fine and v. fine sandy loam	7	pris, blk, gr	weak	v. friable, friable	0.45	5.0		
30.20									
30.21									
30.22					pris, blk, gr	weak	firm	0.45	5.0
30.23					pris, blk, gr	mod or strong	v. friable, friable	0.78	2.0
30.24									
30.25					pris, blk, gr	mod or strong	firm	0.45	5.0
30.26									
30.27					platy	weak	v. friable, friable	0.45	5.0
30.28									
30.29					platy	weak	firm	0.00	0.0
30.30					platy	mod or strong	v. friable, friable	0.24	0.0
30.31									
30.32					platy	mod or strong	firm	0.00	0.0
30.33									

31.1			massive		v. friable,	0.45	5.0
31.2					friable		
31.3			massive		firm	0.00	0.0
31.4	Loam	8	pris, blk, gr	weak	v. friable,	0.6	2.6
31.5					friable		
31.6			pris, blk, gr	weak	firm	0.45	5.0
31.7			pris, blk, gr	mod or	v. friable,	0.78	2.0
31.8				strong	friable		
31.9			pris, blk, gr	mod or	firm	0.45	5.0
31.10				strong			
31.11			platy	weak	v. friable,	0.45	5.0
31.12					friable		
31.13			platy	weak	firm	0.00	0.0
31.14			platy	mod or	v. friable,	0.24	0.0
31.15				strong	friable		
31.16			platy	mod or	firm	0.00	0.0
31.17				strong			
31.18			massive		v. friable,	0.45	5.0
31.19					friable		
31.20			massive		firm	0.00	0.0
31.21	Silt loam	9	pris, blk, gr	weak	v. friable,	0.6	2.6
31.22					friable		
31.23			pris, blk, gr	weak	firm	0.45	5.0
31.24			pris, blk, gr	mod or	v. friable,	0.78	2.4
31.25				strong	friable		
31.26			pris, blk, gr	mod or	firm	0.45	5.0
31.27				strong			
31.28			platy	weak	v. friable,	0.45	5.0
31.29					friable		
31.30			platy	weak	firm	0.00	0.0
31.31			platy	mod or	v. friable,	0.00	0.0
31.32				strong	friable		
31.33			platy	mod or	firm	0.00	0.0
31.34				strong			

32.1			massive		v. friable,	0.3	5.0
32.2					friable		
32.3			massive		firm	0.00	0.0
32.4	Clay loam,	10	pris, blk, gr	weak	v. friable or	0.3	5.0
32.5	silty clay				friable		
32.6	loam, sandy						
32.7	clay loam						
32.8			pris, blk, gr	weak	firm	0.00	0.00
32.9			pris, blk, gr	mod or	v. friable or	0.6	2.6
32.10				strong	friable		
32.11			pris, blk, gr	mod or	firm	0.3	5.0
32.12				strong			
32.13			platy	weak	v. friable or	0.00	0.00
32.14					friable		
32.15			platy	weak	firm	0.00	0.00
32.16			platy	mod or	v. friable or	0.00	0.00
32.17				strong	friable		
32.18			platy	mod or	firm	0.00	0.00
32.19				strong			
32.20			massive		v. friable or	0.00	0.00
32.21					friable		
32.22			massive		firm	0.00	0.00
32.23	Clay, silty	11	pris, blk, gr	weak	v. friable,	0.00	0.00
32.24	clay, sandy				friable		
32.25	clay						
32.26			pris, blk, gr	weak	firm	0.00	0.00
32.27			pris, blk, gr	mod or	v. friable, or	0.3	5.0
32.28				strong	friable		
32.29			pris, blk, gr	mod or	firm	0.00	0.00
32.30				strong			
32.31			platy	weak	v. friable,	0.00	0.00
32.32					friable		
32.33			platy	weak	firm	0.00	0.00

33.1	platy	mod or	v. friable,	0.00	0.00
33.2		strong	friable		
33.3	platy	mod or	firm	0.00	0.00
33.4		strong			
33.5	massive		v. friable,	0.00	0.00
33.6			friable		
33.7	massive		firm	0.00	0.00

33.8 All very firm consistence has a loading rate of 0.0.

33.9 TABLE XIIa

33.10 ~~LOADING RATES FOR DETERMINING BOTTOM ABSORPTION AREA~~
 33.11 ~~FOR TRENCHES AND SEEPAGE BEDS FOR EFFLUENT TREATMENT~~
 33.12 ~~LEVELS A AND B AND ABSORPTION RATIOS FOR DETERMINING MOUND~~
 33.13 ~~ABSORPTION AREAS USING PERCOLATION TESTS~~

33.14	Percolation rate (minutes per	Gallons per day per square foot	Mound absorption
33.15	inch)	of trench bottom	ratio
33.16	Faster than 0.1*	0.0	1
33.17	0.1 to 5*	1.6	1
33.18	0.1 to 5 (soil texture groups 3 &	1.0	2
33.19	5)		
33.20	6 to 15	1.0	1.3
33.21	16 to 30	0.78	2
33.22	31 to 45	0.78	2.4
33.23	46 to 60	0.6	2.6
33.24	61 to 120	0.3	5.0
33.25	Slower than 120	-	-

33.26 *See part 7080.2260 for requirements for these soils.

33.27 **7080.2400 TYPE V SYSTEMS.**

33.28 A system designed according to this part is considered a Type V system. The system
33.29 must:

33.30 A. employ design flow values in parts 7080.1850 to 7080.1885;

34.1 B. meet ~~or exceed~~ the requirements of part 7080.2150, subpart 2; and

34.2 C. be designed with a vertical separation that ensures adequate sewage dispersal
 34.3 and treatment. Design factors to consider include, but are not limited to, effluent quality,
 34.4 loading rates, groundwater mounding if loading rates are in excess of those in part
 34.5 ~~7080.2350, subpart 2, Table XII or XIHa~~ 7080.2150, subpart 3, item E, Table IX or IXa,
 34.6 loading methods, and soil conditions.

34.7 ISTS must not contaminate underground waters or zones of periodic saturation with
 34.8 viable fecal organisms.

34.9 **7080.2440 COLLECTION SYSTEMS.**

34.10 Collection of greater than 2,500 gallons per day of sewage from multiple buildings or
 34.11 multiple other establishments discharging into an ISTS must be:

34.12 A. according to the Prescriptive Designs and Design Guidance for Advanced
 34.13 Designers, incorporated by reference under part 7080.1550, subpart 2; or

34.14 B. designed by a Minnesota licensed professional engineer.

34.15 **7080.2450 MAINTENANCE.**

34.16 [For text of subs 1 and 2, see M.R.]

34.17 Subp. 3. **Removal of material.**

34.18 [For text of items A and B, see M.R.]

34.19 C. After removal of solids and liquids from a system installed after the adoption
 34.20 of a local ordinance adopted after February 4, 2008, the system shall maintenance hole
 34.21 cover must be brought into compliance with secured as described in part 7080.1970,
 34.22 item C. Covers secured by screws shall must be refastened in all screw openings. ~~If the~~
 34.23 ~~maintenance hole does not extend to finish grade, it must be brought into compliance with~~
 34.24 ~~part 7080.1970, item C, or secured by covering with a minimum of 12 inches of soil.~~

35.1 D. After removal of solids and liquids from a system installed before the
 35.2 adoption of a local ordinance adopted after February 4, 2008, maintenance hole covers
 35.3 must be sound, durable, and of adequate strength as specified in part 7080.1970, item
 35.4 C, subitem (3), and:

35.5 (1) be buried with a minimum of 12 inches of soil cover or, if the cover is
 35.6 currently at or above the ground surface or within 12 inches from final grade, be secured
 35.7 by a method that was deemed secure by the local ordinance that was in effect before
 35.8 February 4, 2008; or

35.9 (2) meet the requirements of part 7080.1970, item C, if the cover is to be
 35.10 raised to be at or above the ground surface or within 12 inches from final grade.

35.11 D E. Pump tanks must be maintained according to this part. Sludge must be
 35.12 removed if within one inch of the pump intake.

35.13 [For text of subps 4 to 6, see M.R.]

35.14 Subp. 7. **Use of soil treatment site.** Activities on the current soil dispersal and
 35.15 treatment system or the reserve soil dispersal and treatment area as specified in part
 35.16 ~~...~~ 7082.0100, subpart 3, item F, that impair the current or future treatment abilities or
 35.17 hydraulic performance of the soil treatment and dispersal system are prohibited. This
 35.18 includes, but is not limited to, covering all or part of the soil treatment system with an
 35.19 impermeable surface as determined by the local unit of government.

35.20 [For text of subp 8, see M.R.]

35.21 **7080.2500 SYSTEM ABANDONMENT.**

35.22 Subpart 1. **Tank abandonment.** All systems with no future intent for use must
 35.23 be abandoned according to this part. Tank abandonment procedures for sewage tanks,
 35.24 cesspools, leaching pits, drywells, seepage pits, vault privies, and pit privies, ~~and~~
 35.25 ~~distribution devices~~ must meet the requirements in items A to C.

36.1 [For text of items A to C, see M.R.]

36.2 [For text of subps 2 and 3, see M.R.]

36.3 **7080.2550 SEEPAGE PITS, DRYWELLS, AND LEACHING PITS.**

36.4 [For text of subp 1, see M.R.]

36.5 Subp. 2. **Requirements for seepage pits, drywells, and leaching pits.** A seepage
36.6 pit, drywell, or leaching pit is a system that:

36.7 [For text of items A to D, see M.R.]

36.8 E. has a pit that has not been placed in a soil stratum ~~with a texture group of 1 or~~
36.9 ~~4 in Table IX in part 7080.2150, subpart 3, item E~~ of sand, loamy sand, fine sand, or loamy
36.10 fine sand texture when any of those soils contain 35 percent or more rock fragments;

36.11 [For text of items F and G, see M.R.]

36.12 **7081.0020 DEFINITIONS.**

36.13 [For text of subps 1 to 3, see M.R.]

36.14 Subp. 4. **Midsized subsurface sewage treatment system or MSTs.** "Midsized
36.15 subsurface sewage treatment system" or "MSTs" means ~~an individual~~ a subsurface sewage
36.16 treatment system, or part thereof, as set forth in Minnesota Statutes, sections 115.03 and
36.17 115.55, that employs sewage tanks or other treatment devices with final discharge into the
36.18 soil below the natural soil elevation or elevated final grade and that is designed to receive
36.19 sewage ~~from dwellings or other establishments with a design flow of greater than 5,000~~
36.20 ~~gallons per day to 10,000 gallons per day.~~

36.21 ~~Design flows must be determined by part 7081.0110.~~ MSTs also includes ~~on-lot~~
36.22 ~~septic tanks, holding tanks, and privies that serve these same facilities but does not include~~
36.23 ~~any pump tanks used in a sewage collection system.~~ are designed to receive a sewage
36.24 design flow of greater than 5,000 gallons per day to 10,000 gallons per day; on-lot sewage
36.1 tanks discharging into a sewage collection system that discharges into MSTs treatment

37.2 or dispersal components; and the sewage collection system that discharges into MSTS
37.3 treatment or dispersal components. MSTS does not include those components defined as
37.4 plumbing under chapter 4715 ~~or sewage collection systems.~~

37.5 [For text of subps 5 to 8, see M.R.]

37.6 **7081.0040 STATE REGULATION.**

37.7 Subpart 1. **Agency regulation.**

37.8 A. All MSTS must be designed and operated according to this chapter, except as
37.9 modified through an ordinance in compliance with chapter 7082 and Minnesota Statutes,
37.10 section 115.55. All MSTS must be designed, installed, inspected, pumped, and operated
37.11 by a qualified employee under part 7083.1010 or a licensed businesses meeting the
37.12 qualifications in chapter 7083 business under part 7083.0710. All MSTS must conform to
37.13 applicable state statutes and rules.

37.14 B. ~~When~~ The owner or owners of a single SSTS; or a group of SSTS under
37.15 single common ownership within one-half mile of each other, are designed to treat a design
37.16 flow greater than 10,000 gallons per day, the owner or owners shall make application for
37.17 and must obtain an SDS permit from the agency in accordance with according to chapter
37.18 7001. If the measured daily flows for a consecutive seven-day period exceed 10,000 when
37.19 all or part of proposed or existing soil dispersal components are within one-half mile of
37.20 each other and the combined flow from all proposed and existing SSTS is greater than
37.21 10,000 gallons per day, an SDS permit is required. For proposed SSTS, the flow must
37.22 be determined according to item D. For existing SSTS, the flow is determined by the
37.23 greater of:

37.24 (1) the average maximum seven-day measured flow; or

37.25 (2) the flow determined according to item D.

38.1 [For text of items C and D, see M.R.]

38.2 [For text of subp 2, see M.R.]

38.3 **7081.0080 PERFORMANCE AND COMPLIANCE CRITERIA.**

38.4 [For text of subps 1 to 3, see M.R.]

38.5 Subp. 4. **Groundwater protection.** To be in compliance, all MSTs must:

38.6 A. ~~maintain a zone of unsaturated soil between the bottom of the soil treatment~~
38.7 ~~and dispersal system and the periodically saturated soil or bedrock during loading~~
38.8 ~~of effluent, as described in part 7081.0270, subpart 8~~ meet the requirements of part
38.9 7080.1500, subpart 4, item D;

38.10 [For text of items B to E, see M.R.]

38.11 [For text of subps 5 to 8, see M.R.]

38.12 **7081.0120 DESIGN FLOW DETERMINATION FOR DWELLINGS.**

38.13 [For text of subp 1, see M.R.]

38.14 Subp. 2. **New housing developments.** For new housing developments to be
38.15 served by a common SSTS, the developer ~~shall~~ must determine and restrict the total
38.16 number of bedrooms for the development ~~and determine the design flow by multiplying~~
38.17 ~~the total number of bedrooms by 110 gallons per bedroom.~~ Proposed dwellings are
38.18 determined to be Classification I dwellings for flow determination purposes unless
38.19 different classifications are approved by the local unit of government. If the ultimate
38.20 development of phased or segmented growth meets or exceeds the thresholds in part
38.21 7081.0040, subpart 1, item B, the initial system or systems and all subsequent systems
38.22 require a state disposal system permit.

38.23 [For text of subp 3, see M.R.]

39.1 **7081.0130 FLOW AND WASTE CONCENTRATION DETERMINATION FOR**
 39.2 **OTHER ESTABLISHMENTS.**

39.3 Subpart 1. **Method.** Design flows for other establishments are determined by
 39.4 methods in item A or B.

39.5 A. The design flow of sewage for MSTs serving other establishments is
 39.6 estimated using Table I.

39.7 **TABLE I**
 39.8 **ESTIMATED DESIGN SEWAGE FLOW FROM OTHER ESTABLISHMENTS**

39.9	(1) Dwelling units (also see outdoor Unit 39.10 recreation)		Design 39.11 flow (gal/ day/unit)
39.12	(a) Hotel or luxury hotel	guest	55
39.13		square foot	0.28
39.14	(b) Motel	guest	38
39.15		square foot	0.33
39.16	(c) Rooming house	resident	45
39.17		add for each nonresident meal	3.3
39.18	(d) Daycare (no meals)	child	19
39.19	(e) Daycare (with meals)	child	23
39.20	(f) Dormitory	person	43
39.21	(g) Labor camp	person	18
39.22	(h) Labor camp, semipermanent	employee	50
39.23	(2) Commercial/Industrial		
39.24	(a) Retail store	square foot	0.13
39.25		customer	3.8
39.26		toilet	590
39.27	(b) Shopping center	employee	11.5
39.28		square foot	0.15
39.29		parking space	2.5
39.30	(c) Office	employee/8-hour shift	18

40.1		square foot	0.18
40.2	<u>(d)</u> Medical office*	square foot	1.1
40.3		practitioner	275
40.4		patient	8
40.5	<u>(e)</u> Industrial building*	employee/8-hour shift	17.5
40.6		employee/8-hour shift with showers	25
40.7	<u>(f)</u> Laundromat	machine	635
40.8		load	52.5
40.9		square foot	2.6
40.10	<u>(g)</u> Barber shop*	chair	68
40.11	<u>(h)</u> Beauty salon*	station	285
40.12	<u>(i)</u> Flea market	nonfood vendor/space	15
40.13		limited food vendor/space	25
40.14		with food vendor/space	50
40.15	<u>(3)</u> Eating and drinking establishments		
40.16	<u>(a)</u> Restaurant (does not include		
40.17	bar or lounge)	meal without alcoholic drinks	3.5
40.18		meal with alcoholic drinks	8
40.19		seat (open 16 hours or less)	30
40.20		seat (open more than 16 hours)	50
40.21		seat (open 16 hours or less, single	
40.22		service articles)	20
40.23		seat (open more than 16 hours, single	
40.24		service articles)	35
40.25	<u>(b)</u> Restaurant (short order)	customer	7
40.26	<u>(c)</u> Restaurant (drive-in)	car space	30
40.27	<u>(d)</u> Restaurant (carry out,		
40.28	including caterers)	square foot	0.5
40.29	<u>(e)</u> Institutional meals	meal	5.0
40.30	<u>(f)</u> Food outlet	square foot	0.2
40.31	<u>(g)</u> Dining hall	meal	8.5

41.1	<u>(h)</u> Coffee shop	customer	7
41.2	<u>(i)</u> Cafeteria	customer	2.5
41.3	<u>(j)</u> Bar or lounge (no meals)	customer	4.5
41.4		seat	36
41.5	<u>(4)</u> Entertainment establishments		
41.6	<u>(a)</u> Drive-in theater	car stall	5
41.7	<u>(b)</u> Theater/auditorium	seat	4.5
41.8	<u>(c)</u> Bowling alley	alley	185
41.9	<u>(d)</u> Country club	member (no meals)	22
41.10		member (with meals and showers)	118
41.11		member (resident)	86
41.12	<u>(e)</u> Fairground and other similar		
41.13	gatherings	visitor	1.5
41.14	<u>(f)</u> Stadium	seat	5
41.15	<u>(g)</u> Dance hall	person	6
41.16	<u>(h)</u> Health club/gym	member	35
41.17	<u>(5)</u> Outdoor recreation and related lodging facilities		
41.18	<u>(a)</u> Campground	person <u>campsite with sewer hook-up</u>	
41.19		<u>(per person)</u>	36 <u>32</u>
41.20		<u>site campsite with sewer hook-up (per</u>	
41.21		<u>site/space)</u>	100
41.22		<u>site campsite without sewer hook-up,</u>	
41.23		<u>with central bath toilet or shower</u>	
41.24		<u>facility (per site)</u>	62 <u>50</u>
41.25		site to be served by <u>campsite without</u>	
41.26		<u>sewer hook-up, with central toilet</u>	
41.27		<u>or shower facility, served by central</u>	
41.28		<u>dump station (per site)</u>	14.5 <u>63</u>
41.29	<u>(b)</u> Permanent mobile home	mobile home	225
41.30	<u>(c)</u> Camp, day without meals	person	20
41.31	<u>(d)</u> Camp, day with meals	person	25

42.1	<u>(e)</u> Camp, day and night with		
42.2	meals	person	45
42.3	<u>(f)</u> Resort/lodge hotel	person	62
42.4	<u>(g)</u> Cabin, resort	person	50
42.5	<u>(h)</u> Retail resort store	customer	4
42.6	<u>(i)</u> Park or swimming pool	guest	10
42.7	<u>(j)</u> Visitor center	visitor	13
42.8	<u>(6)</u> Transportation		
42.9	<u>(a)</u> Gas station/convenience store	customer	3.5
42.10	<u>(b)</u> Service station*	customer	11
42.11		service bay	50
42.12		toilet	250
42.13		square foot	0.25
42.14	<u>(c)</u> Car wash* (does not include		
42.15	car wash water)	square foot	5
42.16	<u>(d)</u> Airport, bus station, rail depot	passenger	5
42.17		square foot	5
42.18		restroom	565
42.19	<u>(7)</u> Institutional		
42.20	<u>(a)</u> Hospital*	bed	220
42.21	<u>(b)</u> Mental health hospital*	bed	147
42.22	<u>(c)</u> Prison or jail	inmate	140
42.23	<u>(d)</u> Nursing home, other adult		
42.24	congregate living	resident	125
42.25	<u>(e)</u> Other public institution	person	105
42.26	<u>(f)</u> School (no gym, no cafeteria,		
42.27	and no showers)	student	14
42.28	<u>(g)</u> School (with cafeteria, no		
42.29	gym and no showers)	student	18
42.30	<u>(h)</u> School (with cafeteria, gym,		
42.31	and showers)	student	27.5
42.32	<u>(i)</u> School (boarding)	student	95

43.1	<u>(j)</u> Church	seat	4
43.2		add for each meal prepared	5
43.3	<u>(k)</u> Assembly hall	seat	4
43.4	<u>(8)</u> Miscellaneous		
43.5	<u>(a)</u> Public lavatory	user	5
43.6	<u>(b)</u> Public shower	shower taken	11

43.7 * Waste other than sewage is only allowed to be discharged into the system if the waste is
43.8 suitable to be discharged to groundwater.

43.9 Unless otherwise noted in Table I, the flow values do not include flows generated
43.10 by employees. A flow value of 15 gallons per employee per eight-hour shift must be
43.11 added to the flow amount. Design flow determination for establishments not listed in
43.12 Table I shall be determined by the best available information and approved by the local
43.13 unit of government.

43.14 B. The measured design flow of sewage for MSTs serving other establishments
43.15 is determined by averaging the measured daily flows for a consecutive seven-day period in
43.16 which the establishment is at maximum capacity or use.

43.17 Subp. 2. **Waste concentration.** ~~If concentrations of biochemical oxygen demands,~~
43.18 ~~total suspended solids, and oil and grease from the sewage tank to the soil dispersal~~
43.19 ~~system are expected to be higher than 175 170 mg/l BOD (or 125 mg/l CBOD₅), 65 60~~
43.20 ~~mg/l TSS, or 25 mg/l respectively of oil and grease,~~ an estimated or measured average
43.21 concentration must be determined and be acceptable to the local unit of government.
43.22 System design must account for concentrations of these constituents so as not to cause
43.23 internal system malfunction, such as, but not limited to, clogging of pipes, orifices,
43.24 treatment devices, or media.

43.25 **7081.0160 PRELIMINARY EVALUATION.**

43.26 A preliminary evaluation consists of determining:

44.1 A. the design flow and, anticipated effluent concentrations of biochemical
44.2 oxygen demand, total suspended solids, and ~~fats, oils, oil and grease,~~ and anticipated
44.3 presence of nondomestic waste from the dwelling, dwellings, or other establishments;

44.4 [For text of items B to L, see M.R.]

44.5 **7081.0170 FIELD EVALUATION.**

44.6 [For text of subps 1 to 4, see M.R.]

44.7 Subp. 5. **Soil pits.**

44.8 A. Soil pits are required to investigate the soil for MSTs design. The required
44.9 number of soil pits to adequately define the limiting layer and soil dispersal system sizing
44.10 must be determined by the professional judgment of the designer as based on the size of
44.11 the area, and consistency of the soil, and must be approved by the local unit of government.

44.12 [For text of items B and C, see M.R.]

44.13 [For text of subps 6 to 8, see M.R.]

44.14 **7081.0240 SEWAGE TANKS.**

44.15 [For text of subp 1, see M.R.]

44.16 Subp. 2. [See repealer.]

44.17 Subp. 3. **Lint filters, effluent screens, and pressure filters.** ~~Effluent screens must~~
44.18 ~~be used as the outlet baffle on the final septic tank or pressure filters must be used in the~~
44.19 ~~pump tank if common tanks are employed in series. Alarms must be employed on tanks~~
44.20 ~~equipped with effluent screens.~~ An effluent screen or pressure filter must be used on all
44.21 systems. If multiple septic tanks are used, the effluent screen must be placed in the last
44.22 tank in the series and provided with an alarm. Lint filters are recommended if the sewage
44.23 contains laundry waste.

44.24 Subp. 4. **Tank geometry.**

45.1 A. For common septic tanks, the maximum liquid depth of septic tanks to
45.2 determine liquid capacity must be no greater than 84 inches. The length-to-width ratio and
45.3 the length-to-depth ratio must facilitate settling of solids.

45.4 ~~B. For common septic tanks, the space in the tank between the liquid surface
45.5 and the top of the inlet and outlet baffles must not be less than 20 percent of the total
45.6 required liquid capacity.~~

45.7 [For text of subps 5 and 6, see M.R.]

45.8 Subp. 7. [See repealer.]

45.9 **7081.0270 FINAL TREATMENT AND DISPERSAL.**

45.10 [For text of subps 1 to 4, see M.R.]

45.11 Subp. 5. **Soil absorption area sizing.**

45.12 A. Effluent loading rates to the soil shall not exceed the soil's ability to infiltrate
45.13 and transmit effluent as determined by the observations and measurements in part
45.14 7081.0170, subpart 7, and must be no greater than loading rates prescribed in:

45.15 (1) part 7080.2150, subpart 3, item E, Table IX or IXa, if the absorption
45.16 area receives treatment level C effluent as described in part 7083.4030; or

45.17 (2) part ~~7080.2350, subpart 3, Table XII or XIIa~~ 7080.2150, item E, if the
45.18 absorption area receives effluent meeting treatment levels A or B in part 7083.4030; or

45.19 (3) part 7080.2400, if allowed by the local unit of government.

45.20 B. If the absorption area receives effluent as described in item A, subitem (1),
45.21 the absorption area shall be increased by 50 percent of the amount derived in item A,
45.22 subitem (1), and zoned for dosing and resting.

45.23 [For text of subps 6 and 7, see M.R.]

46.1 Subp. 8. **Soil treatment zone.** For treatment of effluent by soil to meet the
46.2 performance criteria in part 7081.0080, subpart 4, item C, the soil treatment and dispersal
46.3 systems must meet the requirements of item A, B, or C.

46.4 A. For soil treatment and dispersal systems that receive treatment level A-2,
46.5 B-2, or C effluent as described in part 7083.4030, the soil treatment zone requirements
46.6 must meet ~~or exceed the requirements of~~ part 7080.2150, subpart 3, item C. The required
46.7 three-foot vertical separation must be maintained during operation after accounting for
46.8 groundwater mounding.

46.9 B. For soil treatment and dispersal systems that receive treatment level A or B
46.10 effluent as described in part 7083.4030, the soil treatment zone requirements must meet ~~or~~
46.11 ~~exceed the requirements of subitems (1) to (4):~~ part 7080.2150, subpart 3, item C, unless it
46.12 is modified in Table XI of part 7080.2350, subpart 2, with a minimum vertical separation
46.13 of two feet. The required vertical separation must be maintained during operation after
46.14 accounting for groundwater mounding.

46.15 ~~(1) a minimum vertical depth of the soil treatment and dispersal zone~~
46.16 ~~below the distribution media shall be determined according to part 7080.2350, subpart 2,~~
46.17 ~~Table XI, with a minimum vertical separation of two feet. This zone shall meet criteria~~
46.18 ~~in units (a) to (c):~~

46.19 ~~(a) the zone must be above the periodically saturated soil and bedrock.~~
46.20 ~~The zone must be continuous and not be interrupted by seasonal zones of saturation;~~

46.21 ~~(b) any soil layers with a sizing texture group of 1 or 4 in Table IX in~~
46.22 ~~part 7080.2150, subpart 3, item E, must not be credited as part of the necessary treatment~~
46.23 ~~zone; and~~

46.24 ~~(c) the entire treatment zone depth must be within seven feet from~~
46.25 ~~final grade;~~

47.1 (2) ~~the distribution system or media must not place a hydraulic head greater~~
 47.2 ~~than 30 inches above the bottom of the absorption area;~~

47.3 (3) ~~the system's absorption area must be original soil; and~~

47.4 (4) ~~the system's absorption area must be sized according to subpart 6.~~

47.5 [For text of items C and D, see M.R.]

47.6 [For text of subps 9 to 11, see M.R.]

47.7 **7081.0275 COLLECTION SYSTEMS.**

47.8 The collection system for collection of sewage from multiple buildings or multiple
 47.9 other establishments discharging into an MSTs must be designed:

47.10 A. according to the Prescriptive Designs and Design Guidance for Advanced
 47.11 Designers, incorporated by reference under part 7080.1550, subpart 2; or

47.12 B. by a Minnesota licensed professional engineer.

47.13 **7082.0040 REGULATORY ADMINISTRATION RESPONSIBILITY.**

47.14 [For text of subps 1 to 4, see M.R.]

47.15 Subp. 5. **Reporting requirements for all local programs.** Local units of
 47.16 government that administer SSTs programs must provide an annual report to the
 47.17 commissioner. The report must be submitted to the commissioner no later than ~~February 1~~
 47.18 January 10 for the previous calendar year. The ~~reports~~ report must include:

47.19 ~~A. a copy of the standard construction permit, operating permit, and inspection~~
 47.20 ~~forms, if different from previous year's;~~

47.21 B A. the name and address of the program administrator, all qualified
 47.22 employees, and contracted licensed businesses authorized to perform services on behalf
 47.23 of the local unit of government;

48.1 C B. the number of permits issued in the reporting year in the following
48.2 categories:

48.3 Total SSTS by flow permitted in year:

48.4	1-2,499	2,500-4,999	5,000-10,000
48.5	gallons	gallons	gallons
48.6	per day	per day	per day

48.7 New SSTS construction

48.8 Replacement SSTS

48.9 Total SSTS by type permitted in year:

48.10	Residential	Other establishments
48.11	Type I	
48.12	Type II	
48.13	Type III	
48.14	Type IV	
48.15	Type V	

48.16 D C. the total number of systems serving full-time residences and seasonal
48.17 residences, the total number of cluster systems, and the total number of other
48.18 establishments in the jurisdiction;

48.19 E D. the estimated percentage of existing SSTS in compliance within the local
48.20 government's jurisdictional boundaries and how the estimate was developed;

48.21 F E. the number of septic system tanks installed by each licensed installation
48.22 business or homeowner;

48.23 G F. the number of systems regulated under an operating permit;

48.24 H G. for counties, the names of cities and townships that have local ordinances
48.25 within the county; and

48.26 I H. a narrative description of problem areas in local SSTS administration.

49.1 **7082.0100 REQUIREMENTS FOR LOCAL ORDINANCES.**

49.2 Subpart 1. **Requirement.** All SSTS ordinances must contain the provisions in items
49.3 A to ~~D~~ C.

49.4 [For text of items A and B, see M.R.]

49.5 ~~C. A provision requiring that the owner has five years from the date of the~~
49.6 ~~bedroom addition permit issuance to upgrade, replace, repair, or discontinue use of the~~
49.7 ~~system. This upgrade criterion applies only if:~~

- 49.8 (1) ~~the local unit of government issues a permit to add a bedroom;~~
49.9 (2) ~~the system inspection is triggered by a bedroom addition permit request;~~
49.10 (3) ~~the system was installed between May 27, 1989, and January 3, 1996;~~
49.11 (4) ~~the system does not comply with part 7080.1500, subpart 4; and~~
49.12 (5) ~~the system is not an imminent threat to public health or safety as~~
49.13 ~~described in part 7080.1500, subpart 4, item A.~~

49.14 ~~D~~ C. Local ordinance requirements regulating vertical separation for systems
49.15 built before April 1, 1996, in systems that are not SWF as defined in part 7080.1100,
49.16 subpart 84, must meet the requirements in part 7080.1500, subpart 4, item E.

49.17 [For text of subp 2, see M.R.]

49.18 Subp. 3. **Additional ordinance requirements for all programs.** Ordinances
49.19 adopted by a local unit of government under part 7082.0050 must contain the provisions
49.20 in items A to R.

49.21 [For text of items A to I, see M.R.]

49.22 J. A provision requiring that a management plan be developed, reviewed, and
49.23 approved submitted by the designer to the local unit of government before issuance of

50.1 a construction permit for all new or replacement ISTS as described in part 7080.1100,
50.2 subparts 51 and 66.

50.3 [For text of items K to R, see M.R.]

50.4 [For text of subps 4 and 5, see M.R.]

50.5 **7082.0300 LOCAL PROGRAM ADMINISTRATION.**

50.6 [For text of subp 1, see M.R.]

50.7 **Subp. 2. Prohibited variation.**

50.8 [For text of item A, see M.R.]

50.9 B. Programs adopted under part 7082.0100, subpart 3, must not issue variances
50.10 from provisions in part 7080.2150, subpart 2, items A to D, or 7081.0080, subparts 2 to 5.

50.11 [For text of item C, see M.R.]

50.12 [For text of subps 3 to 5, see M.R.]

50.13 **7082.0500 PERMIT PROGRAM FOR SSTS.**

50.14 [For text of subp 1, see M.R.]

50.15 **Subp. 2. SSTS permit application requirements.**

50.16 ~~A.~~ SSTS permit applications must require the submittal of exhibits necessary
50.17 for issuing a permit as described in this chapter, along with general requirements
50.18 for identifying the property and owners, a site evaluation report, a design report, a
50.19 management plan, and any other information requested by the local unit of government
50.20 pertinent to this process. Exhibits for site evaluation, design, and applicable construction
50.21 information must be complete and include a certified statement from the certified person
50.22 who conducted or oversaw the work. An approval process must be developed to address
50.23 changes in the approved design that served as the basis for issuing a permit.

51.1 ~~B. Local units of government must require, review, and approve the technical~~
 51.2 ~~basis for Type II to Type V systems as listed in parts 7080.2250 to 7080.2400.~~

51.3 Subp. 3. **Permit approval requirements and procedures.** The permit program
 51.4 must include the requirements in items A to D.

51.5 [For text of item A, see M.R.]

51.6 B. The local unit of government must review and either approve or deny
 51.7 the permit application ~~and management plan~~ before issuing a construction permit.
 51.8 Construction must not be initiated until a construction permit is granted. Final approval of
 51.9 the system must be evidenced by issuance of a certificate of compliance.

51.10 [For text of items C and D, see M.R.]

51.11 **7082.0600 SYSTEM MANAGEMENT.**

51.12 Subpart 1. **Management plans.**

51.13 A. Local units of government ~~shall~~ must require management plans for all new
 51.14 or replacement SSTS as described in parts 7080.2210 to ~~7080.2300~~ 7080.2400. These
 51.15 plans must be submitted to the local government before issuance of a construction permit.

51.16 [For text of item B, see M.R.]

51.17 [For text of subp 2, see M.R.]

51.18 **7082.0700 INSPECTION PROGRAM FOR SUBSURFACE SEWAGE**
 51.19 **TREATMENT SYSTEMS.**

51.20 Subpart 1. **Inspection requirements.** Local units of government must ~~have an~~ adopt
 51.21 and implement a construction inspection program for new construction and replacement
 51.22 SSTS to enforce requirements under this chapter. The construction inspection program
 51.23 must specify the frequency and times of inspections, specify the requirements of an
 51.24 inspection, establish an inspection protocol, provide for when an inspection cannot

52.1 be completed in a timely manner, and, at a minimum, include the requirements for a
52.2 compliance inspection under subparts 2 and 3, except for subpart 3, item E.

52.3 Subp. 2. **Compliance inspection; new construction or replacement.**

52.4 A. A compliance inspection for all new construction or replacement must be
52.5 conducted:

52.6 (1) to ensure compliance with applicable requirements;

52.7 (2) to ensure compliance before issuance of a permit for the addition of a
52.8 bedroom on property served by an SSTS, if the local unit of government issues permits
52.9 for the addition of a bedroom, unless the requirements under part 7082.0500, subpart
52.10 3, item C, are met;

52.11 ~~(3) for all new construction or replacement;~~

52.12 ~~(4)~~ (3) by a qualified employee or licensed inspection business, authorized
52.13 by the local unit of government, who is independent of the owner and the installer; and

52.14 ~~(5)~~ (4) for an evaluation, investigation, inspection, recommendation, or
52.15 other process used to prepare a disclosure if conducted by a party who is not the system
52.16 owner. This disclosure action constitutes a compliance inspection and must be conducted
52.17 according to this chapter.

52.18 B. A licensed inspection business that inspects an existing SSTS is allowed to
52.19 subsequently design and install a new SSTS for that property, provided the inspection
52.20 business is also licensed to design and install.

52.21 C. A licensed inspection business working on behalf of a local unit of
52.22 government must not design or install a new or replacement system if there is a likelihood
52.23 that the inspector or business will be responsible for permitting or inspecting the new or
52.24 replacement system or system site.

53.1 D. A licensed inspection business may inspect an existing system that they
 53.2 designed or installed once it has been independently inspected.

53.3 E. A person working for or on behalf of a local unit of government is not
 53.4 allowed to use the person's position to solicit for private business gain.

53.5 Subp. 3. **Certificate of compliance; notice of noncompliance; ~~new construction~~**
 53.6 **~~or replacement.~~**

53.7 [For text of items A and B, see M.R.]

53.8 C. Local units of government ~~shall~~ must develop a certificate of compliance
 53.9 document or use a certificate of compliance developed by the agency for new construction
 53.10 and replacement. The certificate of compliance for new construction and replacement
 53.11 must include the vertical separation distance report described in subpart 4, item B, subitem
 53.12 (2), and the management plan developed under part 7082.0600, subpart 1. All certificates
 53.13 of compliance and notices of noncompliance for new construction and replacement
 53.14 must include property and property owner identification, date of inspection, system
 53.15 components, system location (dimensioned or drawn to scale), well setback distance, field
 53.16 check of soil conditions, SWF, as defined under part 7080.1100, subpart 84, designations
 53.17 as applicable, and Class V designation as applicable.

53.18 D. A certificate of compliance or notice of noncompliance for new construction
 53.19 or replacement must be signed by a licensed inspection business or by a qualified employee
 53.20 certified as an inspector who is authorized by the local unit of government. The certificate
 53.21 of compliance or notice of noncompliance for new construction and replacement must
 53.22 be submitted to the local unit of government no later than 15 ~~business~~ days after any
 53.23 compliance inspection. The certificate of compliance or notice of noncompliance for new
 53.24 construction and replacement must be submitted to the owner or owner's agent within 15
 53.25 ~~business~~ days.

53.26 [For text of item E, see M.R.]

54.1 F. If a compliance inspection for new construction and replacement indicates
 54.2 that the system is not in compliance with applicable requirements, the notice must contain
 54.3 a statement to this effect and specify ~~what must be done to achieve compliance~~ the reason
 54.4 for noncompliance.

54.5 [For text of item G, see M.R.]

54.6 Subp. 4. ~~Certificate of Compliance; notice of noncompliance~~ inspection; existing
 54.7 systems.

54.8 A. ~~The agency's existing SSTS inspection report forms shall be used for~~
 54.9 ~~existing system compliance inspections. A local unit of government is authorized to~~
 54.10 ~~require the use of additional, local existing system inspection forms. A compliance~~
 54.11 inspection of an existing system must first determine whether the soil dispersal system,
 54.12 sewage tanks, or other conditions pose an imminent threat to public health and safety as
 54.13 defined in part 7080.1500, subpart 4, item A. A determination must then be made as to
 54.14 whether the sewage tanks and soil dispersal area are failing to protect ground water as
 54.15 defined in part 7080.1500, subpart 4, item B. The inspection must also verify compliance
 54.16 with part 7080.1500, subpart 4, item C.

54.17 B. ~~An inspection~~ The agency's inspection report form for existing SSTS ~~must~~
 54.18 ~~verify the conditions,~~ supplemented with any necessary or locally required supporting
 54.19 documentation, must be used for the existing system compliance inspections in subitems
 54.20 (1) to (3). Allowable supporting documentation includes tank integrity assessments made
 54.21 within the past three years and prior soil separation assessments.

54.22 (1) ~~Sewage tanks must be assessed for leakage below the operating depth.~~
 54.23 ~~A leakage report~~ A tank integrity and safety compliance assessment must be completed
 54.24 ~~that includes the method or methods used to make the assessment. The assessment must be~~
 54.25 ~~made by either a licensed SSTS~~ inspection, maintenance, installation, or service provider
 54.26 ~~business, except a design business, or a qualified employee with an SSTS certification,~~

55.1 ~~except as a designer~~ inspector with jurisdiction. ~~A passing report~~ An existing compliant
55.2 tank integrity and safety compliance assessment is valid for three years unless ~~the certified~~
55.3 ~~individual has reason to believe that a new inspection is to be conducted and the tank is~~
55.4 ~~found not to be watertight~~ a new evaluation is requested by the owner or owner's agent or
55.5 is required according to local regulations.

55.6 (2) ~~The vertical separation distance from the bottom of the soil treatment~~
55.7 ~~and dispersal system and the periodically saturated soil or bedrock must be verified.~~
55.8 ~~This verification must be achieved by~~ A soil separation compliance assessment must
55.9 be completed by a licensed inspection business or a qualified employee inspector with
55.10 jurisdiction. Compliance must be determined either by conducting new soil borings or by
55.11 ~~prior verifications~~ soil separation documentation made by two independent parties. The
55.12 soil borings used for system design or previous inspections ~~qualify as a verification.~~ ~~A~~
55.13 ~~vertical separation distance report must be completed that includes the method or methods~~
55.14 ~~used to make the assessment and includes any previous soil borings. The assessment must~~
55.15 ~~be made by either a licensed inspection business or a qualified employee inspector with~~
55.16 jurisdiction ~~are allowed to be used.~~ If the ~~verification~~ soil separation report consists of
55.17 ~~verifications~~ has been determined by two independent parties, a subsequent ~~verification~~
55.18 determination is not required unless ~~the inspector has reason to believe a noncompliant~~
55.19 ~~condition exists~~ requested by the owner or owner's agent or required according to local
55.20 regulations.

55.21 (3) ~~Sewage backup, surface seeping, or surface discharge from the system~~
55.22 ~~must be determined. A~~ Determination of hydraulic function report performance and other
55.23 compliance in part 7080.1500, subpart 4, item A, must be completed that includes the
55.24 ~~method or methods used to make the assessment. The assessment must be made by either~~
55.25 ~~a licensed inspection business or a qualified employee with an inspector certification~~ with
55.26 jurisdiction. ~~A passing report is valid until a new inspection is requested or if the hydraulic~~
55.27 ~~performance is believed to have changed.~~

56.1 C. A certificate of compliance ~~shall~~ for an existing system must be based on
56.2 the results of the verifications in item B. The certificate of compliance for an existing
56.3 system must be signed by a licensed inspection business or a qualified employee certified
56.4 as an inspector with jurisdiction. The certificate or notice for an existing system must be
56.5 submitted to the local unit of government with jurisdiction and the property owner or
56.6 owner's agent no later than 15 days after a compliance inspection. The completed form
56.7 must also be submitted to the owner or owner's agent. The certificate of compliance
56.8 for an existing system is valid for three years from the date of issuance, ~~even if one of~~
56.9 ~~the supporting reports expires before the three-year period,~~ unless an inspector finds
56.10 evidence of noncompliance a new inspection is requested by the owner or owner's agent
56.11 or is required according to local regulations.

56.12 D. If a compliance inspection for an existing system indicates that the system is
56.13 noncompliant, the notice must be signed by a licensed inspection business or qualified
56.14 employee ~~certified as an inspector and~~ with jurisdiction, contain a statement ~~to that effect~~
56.15 of noncompliance, and specify ~~what must be done to achieve compliance~~ the reasons for
56.16 noncompliance of each component specified in item B.

56.17 [For text of subp 5, see M.R.]

56.18 **7083.0750 INSPECTION LICENSE.**

56.19 Subpart 1. **Authorization.**

56.20 A. A licensed basic inspection business is authorized to conduct compliance
56.21 inspections and issue written certificates of compliance and notices of noncompliance for
56.22 an existing ISTS described in part 7083.0740, subpart 1, item A. An inspection business
56.23 is allowed to install a new system for a property in which the business has conducted an
56.24 existing ISTS compliance inspection, provided the business holds the appropriate licenses.
56.25 A local unit of government is allowed to authorize a licensed inspection business to review
56.26 and approve site evaluations and designs, inspect new construction and replacement

57.1 systems, verify the submittal of management plans, and issue written certificates of
 57.2 compliance and notices of noncompliance for systems described in part 7083.0740,
 57.3 subpart 1, ~~items~~ item A and B.

57.4 [For text of item B, see M.R.]

57.5 Subp. 2. **Responsibilities.** Basic and advanced inspection ~~and MSTs inspection~~
 57.6 licensees must submit a completed version of the agency's existing inspection form to the
 57.7 local unit of government and the property owner within ~~30~~ 15 days after any existing
 57.8 system compliance inspection.

57.9 [For text of subp 3, see M.R.]

57.10 **7083.1000 BONDING AND INSURANCE FOR SSTS LICENSED BUSINESSES;**
 57.11 **LIABILITY.**

57.12 Subpart 1. **Bond and insurance requirements.**

57.13 [For text of items A to D, see M.R.]

57.14 E. The corporate surety bond must be submitted to the commissioner on the
 57.15 bond form provided in ~~part 7080.2030~~ this chapter, or on an alternate bond form provided
 57.16 by the commissioner, and must name the applicant as the principal.

57.17 [For text of items F and G, see M.R.]

57.18 [For text of subps 2 to 5, see M.R.]

57.19 **7083.1050 EXPERIENCE.**

57.20 [For text of subps 1 and 2, see M.R.]

57.21 Subp. 3. **Experience plan.** Experience plans must meet the requirements in this
 57.22 subpart.

57.23 A. Experience gained under an experience plan must be gained under the
 57.24 supervision of an unrestricted certified individual who has a specialty area certification

58.1 that is the same as the specialty area sought by the individual acquiring the experience or
58.2 under the supervision of an inspector who is authorized to design and inspect the system.
58.3 After December 31, 2010, an individual providing experience oversight must be a mentor
58.4 as described in part 7083.2000. If an apprentice loses the apprentice's mentor before
58.5 completing the approved experience plan, the apprentice must notify the agency. The
58.6 apprentice must not perform any more work until a new mentor is secured and the revised
58.7 experience plan is approved by the agency.

58.8 [For text of items B and C, see M.R.]

58.9 [For text of subp 4, see M.R.]

58.10 **Subp. 5. Amount of experience.**

58.11 [For text of items A and B, see M.R.]

58.12 C. An applicant for certification as a basic inspector must have:

58.13 (1) co-completed, with a mentor, a minimum of 15 inspections of Type I,
58.14 II, or III systems, as defined under parts 7080.2200 and 7080.2300, with a flow of 2,500
58.15 gallons per day or less. The inspections must include a minimum of one aboveground
58.16 system inspection and one belowground system inspection; and

58.17 (2) observed, with or without a mentor:

58.18 (a) five soil evaluations, system designs, and management plans being
58.19 developed;

58.20 (b) five system installations; and

58.21 (c) five service or operational instances.

58.22 No additional experience is required to qualify for the advanced inspector certification.

58.23 [For text of items D and E, see M.R.]

58.24 **7083.2040 TRANSITIONING EXISTING REGISTRATIONS AND LICENSES.**

59.1 Subpart 1. **Designers.** A business licensed, and an individual registered, as a
59.2 designer I or designer II on February 4, 2008, are reclassified as basic designers. A
59.3 business reclassified as a basic designer under this chapter is authorized to design all types
59.4 and sizes of SSTS until February 4, ~~2011~~ 2012. After that time, a business designing
59.5 systems described under part 7083.0740, subpart 1, item B, must meet the requirements
59.6 of this chapter.

59.7 Subp. 2. **Inspectors.** A business licensed, and an individual registered, as a designer
59.8 I or inspector on February 4, 2008, are reclassified as basic inspectors. A business or
59.9 individual reclassified as an inspector under this chapter is authorized to inspect all
59.10 types of SSTS until February 4, ~~2011~~ 2012. After that time, the business or government
59.11 employee inspecting systems described under part 7083.0740, subpart 1, item B, must
59.12 meet the requirements of this chapter.

59.13 [For text of subps 3 to 5, see M.R.]

59.14 **7083.4000 PRODUCT REVIEW AND REGISTRATION PROCESS.**

59.15 [For text of subp 1, see M.R.]

59.16 Subp. 2. **Proprietary treatment products; certification and registration.**

59.17 [For text of item A, see M.R.]

59.18 B. Manufacturers verifying product performance through testing according
59.19 to the following standards or protocols ~~shall~~ must have product testing conducted by a
59.20 qualified, third-party testing facility. Product performance testing ~~shall~~ must be consistent
59.21 with the following:

59.22 [For text of subitems (1) to (5), see M.R.]

59.23 ~~(6) other equivalent protocols and standards consistent with the~~
 59.24 ~~above-referenced standards and protocol to verify product performance as approved by~~
 59.25 ~~the commissioner; and~~

60.1 ~~(7) (6) protocol for bacteriological reduction described in part 7083.4060;~~
 60.2 and

60.3 (7) other equivalent protocols and standards consistent with the standards
 60.4 and protocols in subitems (1) to (6) to verify product performance as approved by the
 60.5 commissioner.

60.6 [For text of item C, see M.R.]

60.7 **7083.4030 PRODUCT PERFORMANCE REQUIREMENTS FOR PROPRIETARY**
 60.8 **TREATMENT PRODUCTS.**

60.9 TABLE III

60.10 Treatment component/ sequence
 60.11 category Product performance requirements
 60.12 Category A: Treatment system performance testing levels

60.13 Designed to treat sewage
 60.14 with strength typical of a
 60.15 residential source when
 60.16 septic tank effluent is
 60.17 anticipated to be equal to or
 60.18 less than treatment Level C.

Level	Parameters				
	CBOD ₅ (mg/l)	TSS (mg/l)	O&G (mg/l)	FC (#/100ml)	Nutrient (mg/l)
A	15	15	—	1,000	—
<u>A-2</u>	<u>15</u>	<u>15</u>	=	=	=
B	25	30	—	10,000	—
<u>B-2</u>	<u>25</u>	<u>30</u>	=	=	=
C	125*	80 <u>60</u>	20 <u>25</u>	—	—

61.1		TN	-	-	-	-	<u><20, or</u>
61.2							<u>actual</u>
61.3							<u>value</u>
61.4		TP	-	-	-	-	<u>2 <5, or</u>
61.5							<u>actual</u>
61.6							<u>value</u>

61.7 * BOD₅ = 170 mg/l

61.8 Values for levels A ~~and~~, A-2, B, and B-2 are 30-day values
 61.9 (averages for CBOD₅, TSS, and geometric mean for FC).
 61.10 All 30-day averages throughout the test period must meet
 61.11 these values in order to be registered at these levels. Values
 61.12 for levels C, TN, and TP are derived from full test averages.

61.13 Category B: All of the following requirements must be met:

61.14 Designed to treat (1) all full test averages must meet level C; and
 61.15 high-strength sewage (2) the treatment capacity of the product tested in pounds
 61.16 when septic tank effluent is per day for CBOD₅ must be reported.
 61.17 anticipated to be greater than
 61.18 treatment level C, including
 61.19 restaurants, grocery stores,
 61.20 mini-marts, group homes,
 61.21 medical clinics, residences,
 61.22 etc.

61.23 Total nitrogen and Test results must establish product performance effluent
 61.24 phosphorus reduction in quality meeting levels TN and TP, when presented as the
 61.25 Categories A and B full test average.

61.26 **7083.4060 BACTERIOLOGICAL REDUCTION.**

61.27 [For text of subsps 1 to 3, see M.R.]

61.28 Subp. 4. **Disinfection.** Manufacturers are allowed to register products that either:

61.29 A. use meet the bacteriological testing requirements alone, without the need for
 61.30 a separate disinfection in device to meet treatment Levels level A and or B; or

62.1 B. use meet the bacteriological testing requirements when tested with a
62.2 compatible secondary disinfection device as a component of the process in to meet
62.3 treatment level A or B; or

62.4 C. meet the bacteriological testing requirements when coupled with a
62.5 compatible secondary disinfection device that meets bacteriological requirements of this
62.6 part as a component of the process to meet treatment level A or B.

62.7 **7083.4120 PRODUCT REGISTRATION CONTESTED CASE HEARING.**

62.8 A person ~~is afforded an opportunity for~~ whose application for product registration
62.9 under part 7083.4040, item A, has been denied in whole or in part may petition the agency
62.10 to hold a contested case hearing under Minnesota Statutes, chapter 14, for an approval,
62.11 denial, or other final agency action in relation to product registration or renewal. To be
62.12 considered by the agency, the petition must be submitted within 30 days after the person
62.13 receives written notice of the commissioner's proposed action and must comply with part
62.14 7000.1800. The commissioner must grant the petition for a contested case hearing if
62.15 the commissioner finds that the criteria in part 7000.1900 have been met. Final agency
62.16 decisions following contested case hearings must be made according to parts 7000.2000
62.17 to 7000.2200.

62.18 **REPEALER.** Minnesota Rules, parts 7080.1100, subpart 48; 7080.2260; 7081.0120,
62.19 subpart 2; and 7081.0240, subparts 2 and 7, are repealed.